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The Jackson Lecture.¹

A DIAMOND JUBILEE, 1886-1946.¹

By E. S. MEYERS,
Brisbane.

ON December 15, 1887, at 8.30 p.m., Dr. Wilton Love read the annual report of the Medical Society of Queensland for the year 1886-1887. There had been two medical societies of Queensland prior to 1886—the first of 1871, which lasted for only nine months, and the second from May, 1882, until March, 1883. The third Medical Society of Queensland was the only one to have any considerable length of life. It had a very vigorous existence until 1900, when it amalgamated with the more lately formed Queensland Branch of the British Medical Association. As will be seen, the influence of the Medical Society of Queensland has extended right up to the present day, and as was said in 1900 by the last president, Dr. David Hardie: "Although the society will under its present name cease to exist, its extinction is one of name only—the life and prestige of the society will live under another name and will, even more than in the past, form the centre of all that is best in professional life, not only in this city but in the whole colony of Queensland."

It may be justifiably claimed, I think, that 1946 marks the diamond jubilee of the Medical Society of Queensland. The names of those who founded or were among the first members of the society were Joseph Bancroft, E. H. Byrne, W. S. Byrne, Rendle, Love, Hill, Campbell, McNeely, Hare, Jackson, Kebbel, Mullen, Gibson, Short, Taylor, Thomson,

Hardie, Webb, King, Hogg, Ellison, Goeghegan, O'Doherty, Lyons, Little, Tilston, Furley, Owens, Ryan. Much is recorded of the opinions and doings of many of those whose names appear in this list in many pages of volumes of *The Australasian Medical Gazette* which rest as mute witnesses of the past (rarely disturbed by any of the present generation) on the library shelves.

The Jackson lecturer is required to assume the mantle of medical historian; let me hasten to assure you, however, that I am not attempting to summarize the history of sixty years of medicine in Queensland. The task that I have set myself is firstly to recall something of the work of our predecessors of bygone days, particularly of some half a dozen of those elected to presidential office, and to appraise the influence of the early work of the society on the present-day practice of medicine in Queensland.

Mr. Lytton Strachey, in "Portraits in Miniature", states very dogmatically that "history is not a science as it is obvious that history is not an accumulation of facts but the relation of them", and the distinguished author goes on to say that "the mere debating of the question of whether history was an art was certainly one of the curiosities of human ineptitude". Later opinion, without in any way detracting from the importance of presenting history in an artistic manner, rates the subject as one of the social sciences.

Henry Sigerist has pointed out that "research into the social sciences is infinitely more difficult than research in natural science, and furthermore, one must take into account the human factor, the emotions and passions of man".

Evaluation of the various factors so necessary in the writing of an accurate history requires scientific ability of a high order.

I cannot speak of the personality of many of the men mentioned in the list of founders of the Medical Society

¹ Delivered at a meeting of the Queensland Branch of the British Medical Association on September 6, 1946.

of Queensland. It is most unfortunate that we have no pen pictures telling the human story of many of the worthy Queensland doctors of the late Victorian era. We have Jackson's accounts of those of an earlier period, going right back to the beginning of Queensland history in 1823, the earliest medical men in the then colony of New South Wales being Ballow, Simpson and Cannan.

Many interesting anecdotes throwing a light on the character of the old-time doctors were related by Dr. Jackson in his numerous papers on medical history. His lectures took us up to 1870. I endeavoured on a number of occasions to persuade him to continue the story up till the end of the first decade of the new century; unfortunately I could not prevail upon him to do so. It is possible that an account of this period exists in his memoirs, which are in the hands of his executors. These have not been published, which is a pity, as the number of those who could supply first-hand information of the missing period is gradually growing less. Perhaps the Branch Council could do something in the matter.

You will appreciate that for my material in this lecture I have had to rely to a very large extent on the written word, also on hearsay (in some cases first hand), and in a few instances on my acquaintance and friendship with the leading figures in my story.

Perhaps you will permit me to say something of the *milieu* in which graduates of English, Irish and Scottish schools found themselves when they crossed the oceans to practise in such an out of the way place as Queensland of those days. By the end of 1887 the secretary of the society reported that there were 65 medical practitioners resident within a radius of 50 miles of Brisbane, 43 being actively engaged in practice in Brisbane itself.

While the population of Queensland had increased from 28,056 in 1860 to 211,040 in 1880, that of Brisbane had increased from 6,081 in 1861 to 47,172 in 1881. It is recorded that in 1860 there was not a mile of railway either open for traffic or under construction, not a mile of electric telegraph wire, nor—save between Brisbane and Ipswich—was there a formed or metal road, the only avenue of transport being the bridle path or teamster's track. This was certainly a pre—"horse-and-buggy-doctor" period. Many who faced the rigours of a long voyage and conditions such as they had not had to put up with in their native land were soon to be rewarded for their enterprise, for by 1880 the boom decade of Queensland history had commenced. It is recorded in the jubilee memorial volume of Queensland that at this time prospects in Queensland had never seemed brighter; seasons were good and a general air of confidence reigned. The Government was spending loan money lavishly and large amounts were being spent in introducing a stream of immigrants from Europe. (Quite a number of ships' medical officers appointed to look after the health of the immigrants settled permanently in the colony.)

Times were good, too, in the Empire—at any rate for the upper and middle classes; though not so good for the lower classes. There was, of course, the Irish trouble, and in England was seen the commencement of socialism and the birth of the Fabian Society. It was not long since Britain had won the battle of Tel-el-Kebir and settled in Egypt; part of New Guinea had been annexed by McIlwraith, and the Russian scare of 1885 had passed away (there are now few old residents who saw the boom that was placed across the entry of the Brisbane River to prevent the passage of Russian warships). Numbers of colonists proceeded to England for the festivities of the Golden Jubilee of Victoria the Good, Queen and Empress.

The good times were not to last; just what effect they had on medical practice is difficult to assess, but there is no doubt that the doctors of those days shared in the general prosperity. The meetings of the society were well attended, the percentage of attendances probably being higher than in any other period of its history. Many of these medical men not only took a great interest in the arts, in science and in music, but were among the office-bearers of societies for the encouragement of such pursuits.

Amongst the medical men who served the colony at the beginning of our history were some who were born in the

early years of Victoria's reign, and they "looked back with conscious pride upon a time in which they got their novels written by Thackeray, their songs sung by Tennyson and Browning, their politics conducted by Gladstone and Disraeli, and even their beliefs unsettled by Darwin and Huxley".

Several of the youngest of the group were destined to play an important part in our history, and two of them at least were Australian born. One was not only Australian born, but was a graduate of the University of Melbourne—the first Australian university to establish a faculty of medicine. This was Jackson, who (I think I am correct in saying) was the first Australian graduate to practise medicine in Queensland. Another who was Australian born was Dr. Lockhart Gibson, educated at the Ipswich Grammar School and a graduate of the University of Edinburgh. Dr. Wilton Love, another of the youngest group, came to Australia from the north of Ireland at an early age, and like Gibson, was an *alumnus* of the University of Edinburgh.

I think the group of men of 1886 are the most interesting group we have ever seen in the whole of the sixty years. They provided presidents and office-bearers not only for the Medical Society of Queensland, but also for the Queensland Branch of the British Medical Association, and for the Intercolonial (and later Australasian) Medical Congress for very many years. In fact, the influence of not a few of them in medical politics and medical practice continued to be felt for over forty years.

Many of those I have named, in addition to being leaders of the Medical Society, occupied important positions which they held for a long time, such as part-time governmental positions on the Medical Board, the Board of Health, *et cetera*. Then, too, they were well represented (as will be seen) in the educational affairs of the colony. Very few of the "old-timers" were members of Parliament, but Dr. Kevin Izod O'Doherty (whose romantic life story has been told by Dr. Jackson) had been a member of both houses of the Queensland Parliament. Dr. W. F. Taylor and Dr. Charles Marks were members of the Legislative Council.

Leaders of Sixty Years Ago.

Let me now tell you something of the biography of some of the leaders of sixty years ago. I have selected for the most part those who maintained their interest from first to last and were leaders for many years.

The new Medical Society was fortunate in having a man like Joseph Bancroft as its first president. Dr. Hardie, the president for 1899 (an office he held for the second time), wrote of him in 1900: "Dr. Bancroft as a pure scientist stood head and shoulders above any of his colleagues and his work has gained world-wide recognition." In Dr. Bancroft's presidential address there is an admirable summary of the changed conditions of practice experienced by those coming from overseas. The address could well be entitled "Social Medicine in Queensland in 1887", and in it is set out much good advice that could be followed by medical men and laymen of those and future times. The address is still of value to us today, as will be seen by the following quotations.

There is an abundance of work for our new association in the study of the phenomena of health and disease in this colony so recently invaded by civilized man, and in bringing our inquiries to focus at the meetings we may hope to obtain assistance in clearing up the obscurities that beset our biological studies—the most difficult of scientific inquiries. . . . Were it not that we have such a large influx of people from Europe, the native-born would be guided by their own experience and sensations, and rules of life would soon be established; but it is vain for the doctor to talk to the British to change their habits or the Germans to give up lying under their feather beds even though the thermometer may be standing at over 80° in the shade. . . . There is more hope of children adopting good rules of living, and much more could be done in our free schools than is attempted in teaching laws of health. The school buildings would need to be constructed with more regard to the exigencies of the climate. . . . We purchase and initiate everything

British, we put little iron ventilators a hand's breadth in size into our walls, we box everything in, in obedience to the necessities of a rigorous climate where no such climate exists. . . . We set at defiance all rules and makes our homes of single layers of sheet-iron because that material is cheap, the temperature of which in the sunshine at times rises to 150° F. and over, and we expect women and delicate children to live inside of such structures.

I think you will agree that in spite of many scientific advances we still have a long way to go to reach the goal envisaged by Bancroft.

The other members of the society of whom I wish to tell are John Thomson, Taylor, Hardie, Gibson, Love and Jackson.

John Thomson was born in 1847 and came from a medical family, his father having served as surgeon and botanist to His Majesty's ship *Rattlesnake*, which explored and surveyed New Guinea and the Louisiade Archipelago. (Those of you who read the life of T. H. Huxley by Leonard Huxley will remember that the famous physiologist and biologist was another doctor naturalist who served in the same ship.) Since this was written Dr. Jack Thomson has informed me that Huxley was on occasion assistant to his grandfather. John Thomson was resident surgeon to the Brisbane Hospital for six years, and then entered private practice. As a surgeon he was described as being deft and methodical and excelled as a lithotomist. As a hobby he engaged in photomicrographic research, and became interested in, and made every effort to keep up to date in, the new science of bacteriology. He was principal medical officer to the Queensland Defence Forces and also railway medical officer for many years. (The latter position is still held by his son, Dr. J. Mowbray Thomson.) Dr. Thomson was president of the Medical Society of Queensland in 1889, and was also the first president of the amalgamated societies when the Medical Society of Queensland was merged with the Queensland Branch of the British Medical Association. Dr. Thomson was also president of the fifth session of the Intercolonial Medical Congress held in Brisbane in 1899, in the days when Lord Lamington was Governor of Queensland.

Dr. Taylor, or to give him his rightful title, the Honourable Dr. W. F. Taylor, was well known to many present Queensland doctors who are now not so very young. He was president of the society in 1890-1891. Born in London, he went to Canada at a very early age and graduated in that country, and in later years took the diploma of public health at London. He practised medicine for the very long period of sixty-seven years, coming to Clermont in 1870 and moving a few years later to Warwick. He was for many years senior eye, nose and throat surgeon to the Brisbane Hospital and retained that position well into the second decade of the twentieth century. Many will remember his punctual attendance each morning at the Brisbane Hospital, still arriving in pony and trap when that mode of progression had long ceased to be fashionable.

Like John Thomson and the others, Dr. Taylor was a man of many interests in which he indulged to the full for a long period. He was the first president of the newly formed Queensland Branch of the British Medical Association in 1894, and was president again in 1897, and I think on one other occasion. When the eleventh Australasian Medical Congress met in Brisbane after the last war in 1920, he was president of the Congress.

Dr. Lockhart Gibson was one of the last of the old brigade to pass away, and that was quite recently. He was president of the society in 1892 and was well known to many of you personally. I shall tell later of his work, which also extended over many years and was of great importance to the medical profession and to the State.

Dr. (later Sir) David Hardie was president of the society in 1893, and for a second time in 1899. The year 1893 was a bad one for Queensland; in that year there occurred one of the worst floods of the Brisbane River in the history of the colony. To make matters worse, this was the year of the failure of the banks. These events had serious repercussions on the well-being of the medical profession of those days. The secretary wrote as follows in his report for 1892: "The prolonged depression and the healthiness of the community has reacted upon the profession." This was a change from the "boom" days of

the period of the previous decade, when the leadership of the State was alternately in the hands of those two great political rivals, McIlwraith and Griffiths.

As early as 1890 warnings appeared in the medical Press of that day pointing out to overseas doctors that Australia was no longer an El Dorado, and that the country was already medically over-populated. Apparently the position became even worse than this, as in 1899 an editorial article appeared in *The Australasian Medical Gazette*, wherein it was stated that all the University of Sydney had done was to "overcrowd the profession, and to impoverish the hard-working medical practitioner".

Like his friend, Lockhart Gibson, Sir David Hardie has only recently departed from amongst us. His chief medical interests were the diseases of women and children and in medicine, particularly in relation to the effect of climate on disease. Some of you will no doubt remember his interesting address on open-air treatment of disease following his visit to Rollier at his clinic in Leysin, Switzerland.

In 1894 a second medical society came into being in Brisbane, the Queensland Branch of the British Medical Association. It says much for the energy and keenness of the medical men of those days that they were able to keep two medical societies going for a period of six years until the two societies merged. The members of the original society were public-spirited enough to give up the name of their own society.

I think this is a good place for some remarks on medicine and surgery as practised prior to the scientific discoveries of the 1890's and later.

The history of the Brisbane Hospital shows that, as early as 1885, there was a division of practice into medicine and surgery. There was not then, nor for a long time, a sharp dividing line to distinguish surgeon from physician or vice versa. The conditions of life in the colony were factors in determining otherwise. These conditions, however, tended to promote the practice of surgery. As Dr. Hardie said in his presidential address in 1900: "Many operations are yearly performed throughout the country that would almost certainly not be attempted at home unless by some leading surgeon in a University town."

Of the surgeons of 1886, some were trained in pre-Listerian and pre-anæsthesia times. One of them was Kevin Izod O'Doherty, who had removed the head of the femur in cases of intracapsular fractures of the neck. Whether his contemporaries considered such an idea revolutionary I cannot say.

John Thomson learnt his surgery in Edinburgh in pre-Listerian times from surgical giants like Syme and Spencer. Thomson lamented in his presidential address of 1899 that chloroform had killed the *chirurgius*, the handicraft man, the man of deft fingers. He had seen a limb removed at the hip joint in twenty-two seconds, but was convinced that by 1899 the type of man who had done that work was extinct. Abdominal surgery, according to Thomson, was not taught in Edinburgh twenty years prior to 1899.

Dr. Jackson tells us in his memoirs that Listerism was practised only as an antiseptic method, not as an aseptic method, and that surgeons still wore their derelict frock coats. Jackson tells us that O'Doherty was willing to modernize his methods and adopt the grosser forms of Listerism.

There are others, too, who were to have their influence on the older generation of doctors practising in Brisbane in 1886. Dr. Taylor had seen the Lister technique practised at Guy's Hospital, and Lockhart Gibson had been a house surgeon to Chiene, who practised the exact routine of the treatment of wounds as evolved by Lister.

Brisbane had too an exponent of the methods of Lister's great critic, the distinguished gynaecologist, Lawson Tait. This was Dr. Owens, who appears to have been a "live wire", and in his capacity as disciple of Lawson Tait a "chip off the old block". Owens preached the doctrine of meticulous cleanliness, and in 1888 reported two successful cases of ovariotomy, one in a woman aged eighty years, both operations being performed at Mrs. Doggett's Nursing Home. Dr. Owens claimed that no successful ovariotomy had been performed in Brisbane for nine years.

All in all, however, the introduction of Listerism in Brisbane appears to have succeeded without any of the bitterness that marked its introduction in England.

We have seen, then, that there were exponents of surgery to set a very high standard for future practice in the colony. The same may be said of the medicine of those days. There were many able practitioners who had drunk deeply of the Pierian stream. Prototypes of our modern physicians may not have been so scientifically trained as those of today, but as keen observers they excelled many of our present-day practitioners.

But the progress of events was now to produce many changes in the practice of both medicine and surgery. Changes, of course, were inevitable with the ever-increasing scientific discoveries. Langdon Down and Clifford Allbutt have put the matter very succinctly:

The last decade of the nineteenth century was the beginning of endocrine therapy, the first anti-toxin and discovery of X-Rays . . . Medicine had not been so much changed as transformed—a generation ago the Doctor was an observer and a naturalist, and by practice mainly an empiric; now Medicine is being re-constituted upon a more scientific basis.

There were able physicians in Brisbane in the eighties, some of whom were on the honorary staff of the Hospital for Sick Children. A group of them, including Hill, Gibson, Hardie and Love, had brought from the famous schools of Scotland to the young colony of Queensland much of the best of all that was known of the medicine of those days.

It is worth recording the important part played by Scotland in handing on the Hippocratic tradition. Logan Turner, the historian of the Edinburgh Infirmary, tells of the importance of Holland in world affairs in the seventeenth century: "Industry, Agriculture, the Arts and Sciences flourished . . ." Among the great ones of those times were Spinoza, Tasman, Rembrandt, van Leeuwenhoek and Boerhaave. The last-named was the first to establish at Leiden (whose faculty of medicine became famous) clinical teaching as we know it today. Scotland by its geographical position was brought in contact with Holland, and young medical men like Monro and Rutherford brought this learning to Edinburgh. Logan Turner in his interesting story tells that Rutherford gave his first clinical lectures in 1748. We see, as he points out, from the schools of Bologna and Padua the new knowledge spread across the Alps to Leiden, to Edinburgh and thence to the New World.

Scotland has always been famous for learning, and successors of Rutherford and Monro in turn handed on the legacy of clinical teaching to the men who practised in Brisbane in the eighties. The records show that it was not long before men of this group gave evidence of the excellence of their teaching. In 1891 Dr. Lockhart Gibson showed two children suffering from anaemia due to ankylostomiasis. Soon after the formation of the Medical Society of Queensland a newcomer joined the staff of the Hospital for Sick Children—an English graduate who was a worthy addition to the older group. I refer to Dr. A. Jefferis Turner, who is happily still with us. As a graduate of the University College Hospital he brought with him a goodly heritage of English medicine, a legacy that had been enriched by men like Harvey and Thomas Sydenham. Dr. Turner, who had learned his medicine from the famous neurologist Gowers, amongst others, was as most of you know a collaborator with various members of the group at the Hospital for Sick Children. He demonstrated ova of ankylostoma in the cases discussed by Dr. Lockhart Gibson.

Another recruit to the staff of the Hospital for Sick Children was Peter Bancroft, one of the first graduates of the then new medical school of the University of Sydney and its first gold medallist.

Closely associated with the work of the group of men at the Hospital for Sick Children was Dr. Hare, of the Brisbane Hospital, who had been trained at St. Mary's and St. Thomas's Hospitals and who was a doctor of medicine of the University of Durham. Hare was the author of a book on "The Food Factor in Health and Disease", and besides writing many articles in the medical journals of the day, he was famous for his cold-water bath treatment of typhoid fever, typhoid fever being one of the scourges of Queensland at that time. I remember as a student the feeling of reflected glory when I read in Osler's work on medicine that Dr. Hare of Brisbane had used the cold-water bath treatment so thoroughly that the mortality rate from typhoid fever was reduced from 14.8% to 7.5%. Dr.

Jackson wrote in Hare's obituary notice that the number of deaths from perforation and haemorrhage did not alter, but the treatment was responsible for the reduction in the number of deaths from all other causes.

I must now return to chronology for a moment.

It was evident some time before 1894 that the Medical Society of Queensland was not altogether a happy family. Many of its members were men of outstanding personality and held definite views on many subjects, views which they were not slow to express. In those days, too, although the era of duelling was long past, quarrels were still conducted on a somewhat Homeric scale. At this date, so distant from the commencement of our history, like little Peterkin, just "what they fought each other for I can not quite make out". However, in 1894, the Queensland Branch of the British Medical Association was formed. It came into being with all due pomp and ceremony, the Governor of the day, Sir Henry Wylie Norman, being present at the inaugural meeting. From 1894 to 1900 there were two medical societies, each with its own complete set of office bearers.

The next of our original members to reach a presidential chair was Dr. Wilton Love, who became president of the Medical Society of Queensland in 1896. Dr. Love soon succeeded Dr. Rendle, who was the original honorary secretary of the society. Dr. Love gave many years of service as honorary secretary of medical societies of one sort or another. He had a brilliant career at the Brisbane Grammar School and the University of Edinburgh. Although he remained a general practitioner all his life, he was interested in all departments of medicine, particularly the new ones that were coming into being as the result of scientific discoveries. As early as 1896 he read a paper on X rays and showed a Crookes tube at a meeting of the society. He was one of those who took action which led to the establishment of the State pathology laboratory, and for many years he was its expert on pathological histology. His classical education and his ready wit made him much sought after as an after-dinner speaker, both in his native city and at various intercolonial medical gatherings.

And now I come to E. Sandford Jackson, who completes the group of those whom I have selected for special mention and in whose honour these lectures are delivered once a year.

Jackson, like Love, gave much of his time as secretary of medical societies, and was president of the Queensland Branch of the British Medical Association in 1895, 1911 and 1926. He graduated in 1881 as a classmate of Sir George Syme and Sir James Barrett, and as far as I can ascertain was the first graduate of the University of Melbourne to practise in Queensland. Many Melbourne graduates were to follow the lead of Jackson in coming to Queensland. He was the first of the graduates of the first Australian medical school who were to uphold worthily the best medical traditions in Brisbane and in country towns and who were to render service of great value to the State. So, too, at a later date, the graduates of the University of Sydney medical school were to come in increasing numbers and to render equally distinguished service in putting into practice in Queensland the teaching that they had received.

Progress in Medicine.

I shall now attempt to trace the progress made in the various fields of medicine through the years.

I have already indicated how Bancroft set the course that should be followed to improve the health of the people of the colony. He really was the first professor of social medicine in Queensland. There is no need for me to dwell upon the work for which he is world famous, as his story has been well told in various Bancroft lectures; but it is not to be wondered at that tropical disease and the effects of tropical climate were subjects that have received attention continuously from Bancroft's day onwards. Not only his son, Dr. Thomas Bancroft, but also his nephew, Dr. Peter Bancroft, and later members of the family and others too, have carried on in the sphere in which Bancroft was famous.

The effect of climate on the health of white people in the tropics received attention from the very early days. One of the first papers to be read in Queensland was that of

Dr. Joseph Ahearne, who read a paper in 1890 on the effect of climate before the North Queensland Medical Society. Dr. Hardie in 1891 read a paper at the third Intercolonial Medical Congress held in Sydney on the diseases of Queensland for the years from 1887 to 1891 in relation to the atmospheric conditions.

In 1894 Dr. Taylor stressed the importance of quarantine, sanitation and a better water supply. In 1899 Dr. Hardie drew attention to the prevalence of typhoid fever, filariasis, ankylostomiasis and dengue fever. In 1902 it was suggested at the sixth Intercolonial Congress held at Hobart that a school of tropical medicine should be established, Brisbane being suggested as the most suitable place.

The years from 1902 to 1906 were troublous times, for after one of the most disastrous droughts in her history, Queensland suffered a visitation of the dread bubonic plague. In 1909 Dr. Jackson strongly urged the necessity of dealing with fly-borne and mosquito-borne diseases in Brisbane. Dr. J. B. McLean, medical superintendent of the Brisbane Hospital, having shown that of 200 patients in the Brisbane Hospital, 17% were affected with filariasis.

From 1909 onwards until the outbreak of the 1914-1918 war the members of the combined societies (now the Queensland Branch of the British Medical Association) were busily engaged in bringing to the attention of the public the importance of tropical diseases, particularly those of the type that have been mentioned. They were greatly heartened and aided in their work by the appointment of Sir William McGregor as Governor of Queensland. He was the eleventh Governor of the State, and the first who was not only a medical graduate but also a very distinguished one, with a brilliant record of service in various tropical colonial appointments. Sir William McGregor was entertained by the Queensland Branch on January 1, 1910, at the Café Eschenhagen, a fashionable Queen Street café of those days. Sir William McGregor told his hearers that "it ought to be a very easy matter to get rid of mosquitoes compared with what we had to face in West Africa".

Another important event in 1910 was the arrival of Dr. A. Brieni, newly-appointed director of the Australian Institute of Tropical Medicine, which was opened at Townsville in 1913. In 1911, at the instance of the Queensland Branch of the British Medical Association, a meeting was called in connexion with mosquito destruction. This was attended by Sir William McGregor and leading citizens, and important resolutions were passed urging various measures to deal with the problem of fly and mosquito destruction. The resolutions were transmitted to the Home Secretary of the day.

In 1911 discussion took place on the future of the tropical institute and on the question of investigating the future of the white man in the tropics. Sir William McGregor sent a letter to the meeting enclosing a copy of suggestions on the subject drawn up by the International Colonial Institute of Brussels. This dealt with the acclimatization of the white races in tropical countries.

In 1913 Dr. J. A. Cameron, of Ipswich, considered that the presence of ankylostomiasis in Queensland was most serious. It was recalled that the disease had been first recognized in 1889 by Dr. Hogg, of Goodna, after the post-mortem examination of a patient from Nambour. Many papers were read during the first decade of the century upon the subject of filariasis and like diseases, not only by Dr. Thomas Bancroft and Dr. Peter Bancroft, but by others as well.

Let us now briefly review some other aspects of preventive medicine in which the stalwarts of the old brigade were once again prominent.

Dr. A. Jefferis Turner read a paper on diphtheria antitoxin, I think in 1895; a case report in the same year by Dr. Hirschfeld, honorary bacteriologist to the Brisbane Hospital, indicates that he was the first to treat a patient with antitoxin—Behring's antitoxin, a supply of which he was fortunate enough to possess. This must have been a severe case, as it is stated in the report that Dr. C. H. Lawes, then a resident medical officer in the Brisbane Hospital, had to carry out intubation on several occasions. The patient recovered. Shortly after this the secretary to the Board of Health (Dr. Love) advised members of the Branch that regular supplies of antitoxin

were being received through the Government, from the British Institute of Preventive Medicine.

Let me now turn to diseases of children. Dr. Peter Bancroft, president of the Medical Society of Queensland in 1894, was of the opinion that 42% of the total deaths in the colony occurred among children aged under five years. Many of these deaths were due to diphtheria. By 1900 Dr. Hardie was able to report that the mortality rate from this disease at the Hospital for Sick Children had been reduced from 40% to 10%.

This is an appropriate place to mention briefly the work of Dr. Gibson and Dr. Turner in the recognition and prevention of plumbism including plumbic ocular neuritis. The long story, commencing in 1892, of how the medical profession became convinced that lead was causing the mischief, and the even longer story of the time that elapsed before Parliament dealt with the matter, is well known to you all—or if it is not, it should be.

Koch's researches in tuberculosis received attention as early as 1890, when the president for that year, Dr. W. S. Byrne, drew the attention of the members to the importance of the new work. Ever since that date right up to the present time, in spite of strenuous efforts on the part of many presidents and very many councils, there is little evidence to indicate any other finding than that the position of tuberculosis, with regard to both prevention and treatment, leaves much to be desired.

The story of the problems of alcoholism and venereal disease in Queensland is an interesting one which engaged the attention of a number of original members of the society, such as W. S. Byrne, Gibson, Jackson, Hardie, Owens and later Turner and Peter Bancroft and others. The problem of alcoholism, of course, was not confined to Queensland, but existed in the other colonies also. Sir Thomas Fitzgerald, president of the Second Intercolonial Medical Congress held at Melbourne, said: "Alcohol in whatever form it may be taken is not suited to the climate or conditions of the people." Dr. Byrne, in his presidential address, said: "The scourge of habitual intemperance is present in all classes. It is the pestilence that walketh in darkness and the destruction that wasteth at noon day."

I well remember as a schoolboy seeing in the streets the far too numerous subjects of drunkenness when hotels were open to 11 p.m. The work of the Medical Society of Queensland undoubtedly drew public attention to the evil, and also to the necessity for treating chronic alcoholism as a disease rather than as a crime punishable by imprisonment. Parliament eventually passed an act which gave effect to some of the recommendations of the society.

There was not the same unanimity over the handling of the problem of venereal disease as there was over the problem of alcoholism. In fact, when the *Contagious Diseases Act* of 1911 was repealed, feeling between those holding different views ran very high indeed. The act in question contained a provision which enforced the regular inspection of the inmates of brothels by a Medical Officer of Health. Of the members, Jackson and Taylor strongly opposed the repeal, while I think I am right in saying that Turner and Gibson approved of the repeal of this provision. The former pair persuaded the Branch to support a motion urging the retention of the *Contagious Diseases Act*. The government of the day did not accept the suggestion of the Branch.

In the times of which I write, the epoch-making discoveries of Ehrlich and others were still to come. These and the experience of the first World War did much to reduce the extent of the damage caused by venereal disease. In 1913 it was pleasing to find that the opponents of the earlier years had joined forces to urge the Home Secretary to take measures for the suppression of vice in Brisbane.

In his second presidential address in 1911, Jackson took as his subject the different standards of health maintained by the sexes in Queensland. He said in the course of his address: "I think you will admit that the health of white women is not so good in Queensland as that of men." He considered girls to be less athletic and to have fewer playing fields than boys. He drew attention to their unphysiological mode of dress leading to deficient abdominal breathing, to their unsatisfactory footwear, and to the wearing of veils. These habits led to neuroses and constipation.

It is a far cry from these times to the present day of university diplomas in physical education, and to employment of the holders of the diplomas in primary and secondary schools, leading to the all-round improvement of the physical well-being, not only of the female, but also of the male. There is no doubt in my mind that the work of those who were interested in these subjects so long ago has been an important factor in bringing about much-needed reforms. It should not be imagined for a minute, however, that there is nothing more to be done, as the examination of recruits (both male and female) in the recent war shows that we are not paying nearly enough heed to the warnings of men like Jackson and others.

Our predecessors had at heart not only the physical, but also the moral, well-being of the community they served. Thus Dr. Taylor not only sponsored, but was instrumental in persuading Parliament to pass, an act for the proscription of indecent advertisements.

Surveying the medico-sociological problems in relation to youth over the whole period covered in this paper, one feels that, in spite of useful work done by individuals and some organizations, these problems have not received the attention they deserve, nor have they been considered in the light of well-defined principles. We have passed from the severe discipline of the days when paterfamilias's word was law, to the days of *laissez-faire* when "teen-agers" demand and receive the front-door key, and when politicians propose to give the franchise at the age of eighteen years.

In far too many instances youth has been allowed to run wild, particularly in the period from the school leaving age to the time when the privileges of citizenship are acquired. The law-makers and the civic fathers have too often concentrated upon punitive legislation and neglected the sociological education of youth. Apart from the family circle, youth's coming of age appears to be of little account. There is no "wonderful day for investment with the White Toga". We need to turn "youth's hot blood" into useful channels. There is evidence in educational circles (particularly in women's organizations) of a widespread desire for a change and for a new deal for youth.

There is much need here for sociological research; but much of this research must be conducted in the field where the problems are met at first hand. If our universities are to be true universities—if, as Anderson Stuart pointed out at Hobart in 1902, they are to be true universities like that of Salerno which grew out of the needs of the people—then the sooner they take action to ensure that sociology ceases to be the Cinderella science, the better.

Jackson became resident surgeon at the Brisbane Hospital in 1883 and was in complete control of the hospital. As can be seen from the records, he had no easy task; but he was a man who always had the courage of his convictions and was well able to stand up to the fiercest of opposition. An editorial article in *The Australasian Medical Gazette* of those times (I think it was 1890) drew attention to the fact that in Brisbane, a city of 80,000 persons, the Brisbane Hospital of 200 beds was under the sole treatment of the resident medical staff, the honorary visiting staff being called in only for consultation.

Jackson was not without his loyal supporters, one of whom was his assistant, later superintendent of the hospital, James O'Neill Mayne, one of the greatest benefactors of the University of Queensland, whose recent handsome endowments to the Faculty of Medicine are known to you. Dr. Mayne's name comes into our history as a member of the Council of the Queensland Branch of the British Medical Association of 1898. Dr. Jackson told me that as an assistant in the operating theatre Dr. Mayne had few equals. There was much of the dramatic in surgery in those days, and the Queensland group of men took every opportunity to attend meetings of the intercolonial medical congresses. In those times of relative isolation from the world centres of medicine, these meetings played an important part in the advancement of all branches of medicine (but particularly of surgery) in the various colonies. The Queenslanders were able to meet and exchange opinions with surgical giants of the past, such as Sir Thomas Fitzgerald, Sir Alexander MacCormick and

others, whose names became household words throughout the colonies of Australia.

I have told you how men came to practise in Queensland in increasing numbers, following in the footsteps of Jackson and Peter Bancroft. They served as resident medical officers at the Brisbane Hospital and at the Hospital for Sick Children, and after completion of their term of office many remained to practise in various parts of the colony. The day was soon to come when the overseas practitioners were to be in the minority; thus the state of affairs of 1886 was reversed.

A number of those who served under Jackson were to become leaders in surgery in Queensland. Among them was R. A. Meek, who became a member of the Queensland Branch of the British Medical Association in 1901. It is most unfortunate that no obituary notice of Meek appeared in the medical Press. If it is true that history is the biography of great men, medical history cannot afford such omissions. Like Jackson; Meek was a Victorian. They had much in common, both having spent their early lives in the country, and both sharing a love of horses. Few old citizens of Brisbane remain to tell of their beautiful ponies, which were a delight to horse-lovers. It must be remembered that we are still in the horse-and-buggy period, the motor car not having appeared until some few years later.

Jackson's surgical mantle fell upon Meek, who, although a general practitioner to the last, became in his turn senior honorary surgeon to the Brisbane Hospital. Meek in fact was one of the last of that rapidly disappearing type—the family practitioner. I define the family practitioner as one who brings into the world two generations of people. During the war years of 1914-1918 Meek was certainly the mainstay of the hospital as far as surgical work was concerned. Although a very busy practitioner he had an excellent library and devoted much time and thought to surgery. Like Jackson, he was an early reader of the American surgical publications, which were to have a great influence on surgeons in Brisbane and elsewhere. Jackson tells how it was following a description in *Clinics* by that great surgeon, Dr. J. B. Murphy, that he introduced the treatment of peritonitis by proctosigmoid, with gratifying results. Incidentally, Jackson performed the first operation of prostatectomy in Queensland, successfully too. Like Jackson, Meek was the mentor of many young graduates. They learnt much by example rather than by precept, as Meek was among the most retiring of men, who hated to appear in public even when the audience was a medical one. However, he did consent to become the first president of the Brisbane Hospital Clinic Society formed shortly after the war. Many young graduates enjoyed discussions on a Sunday evening and the hospitality of his home in South Brisbane.

I have said that our surgical predecessors were men of dominating personality. This is borne out by a report in 1904 in the medical Press, in which it is stated that "certain members of the Honorary staff of the Brisbane Hospital are against granting of beds to members of the Assistant Honorary Staff".

Throughout the first decade of the new century surgery continued to be the chief attraction of the sons of *Æsculapius*. There were few of the oncoming generation who desired to follow in the footsteps of the earlier physicians. As Jackson said in his third presidential address in 1926, "few were attracted to play the role of physician". He ascribed this lack of interest to the fact that the hospitals were poorly off for laboratories and had no museums. It was not until well into the third decade of the twentieth century that the hospital authorities were persuaded to provide a satisfactory laboratory service, the first director being Dr. J. V. Duhig, our present Professor of Pathology.

Not a few of the members of the first society took an active interest in education. John Thomson worked unremittingly for the establishment of a University of Queensland, which was founded by act of Parliament under Mr. Kidston's leadership in 1909. Thomson's admirers established in his honour the John Thomson Lectureship within the University of Queensland. Hardie, Gibson, Jackson and Love served, some of them for many years, on the Senate of the University of Queensland, and Taylor

was president of the Royal Geographical Society. Many, too, served as trustees of various secondary schools, and all these activities helped to maintain the prestige of the medical profession. Apropos of this, an editorial article in *The Australasian Medical Gazette* during 1907 makes the following statement: "There can be no question that the prestige of the profession is not what it was twenty or thirty years ago." Just the other day, some forty years later, two of my medical friends in the seventh decade said to me: "The profession is not what it used to be." It would be tempting to try to draw a picture of each of the last three generations of doctors in relation to the social background of the times. This lecture, however, must not be unduly prolonged, so I shall content myself by quoting from an article by Ray Lyman Wilbur, of Stanford University, California: "If the future doctor can combine science with the humanity, sympathy and understanding of the old family physician, much of the harshness and frustrations of what we now call civilization can be mitigated." We must beware that science is not "falsely so-called". Dr. Robert Scot Skirving, president of the New South Wales Branch of the British Medical Association over fifty years ago, reminded his audience that "it is well to remember that new facts are not always found within the walls of a laboratory or University". He quoted the lines of A. H. Clough . . . lines used (as you may remember) by Winston Churchill in one of those speeches of his that did so much to steady and rally those he led:

And not by Eastern windows only
When daylight comes, comes in the light.
In front the Sun climbs slow, how slowly,
But Westward, look, the land is bright.

From time to time clinicians have seen fit to repeat the warning of Dr. Scot Skirving, one of the latest to do so being Professor W. D. Cruikshank: "Laboratory science cannot be made a substitute for clinical science . . . Such substitution again leads the profession into the wildness of disorder and superstition."

One of the last activities (prior to the outbreak of the first World War) of the members of our group and others, was an attempt to establish a faculty of medicine within the University of Queensland in 1913. This action was resented and opposed by a number of country medical practitioners, and as a result of various meetings it was decided to hold a referendum on the matter. Before this could be done, however, war had broken out, and nearly all of those who are mentioned, even though middle-aged, went as volunteers on overseas service with the Australian Army Medical Corps.

Subsequent Events.

I shall now as briefly as possible trace the events consequent upon the pioneer work that I have been describing. The work of Bancroft, Gibson, Jackson, Turner and the rest in tropical diseases was followed in 1917 by the decision of the Rockefeller Foundation to commence work in the north and elsewhere on hookworm disease. Turner writes bitterly that our statesmen did nothing about this until 1917, when the Rockefeller Foundation sent out a team to teach us how to do the job of controlling hookworm.

One chapter that I have omitted in the story of progress in paediatrics starts in 1892, when Gibson drew attention to the importance of adenoids as the cause of ill-health in children. His work, as is well known, was carried on by Francis, who was president of the Medical Society of Queensland in 1898, and later by W. N. Robertson, who became his partner.

The present low infant mortality rate in Queensland was due in large measure to the efforts of our medical pioneers, and it was fitting that Dr. Turner, the acknowledged leader in this special field of work, should become Director of the Child Welfare Department established by the State.

You will remember that Joseph Bancroft was interested in the problem of acclimatization. I have the time only to mention briefly a few later events in relation to the problem of the settlement of the white races in the tropics. However, most of it is known to you, although there are many here who were not present at the meeting of the Australasian Medical Congress held in Brisbane in 1920 when the subject of tropical settlement formed the main

subject of the congress. I think you will agree, however, that it is fitting that the School of Physiology, where the subject of acclimatization to life in the tropics is receiving attention from Professor D. H. K. Lee, bears the name of the "Sir William McGregor School of Physiology".

Surgery has made great strides in Queensland, as in other parts of the world, since the period of the first World War. Sir George Syme, president of the section of surgery at the ninth session of the Australasian Medical Congress held in Sydney in 1911, drew attention to the great extension of surgery largely owing to the work of men like McEwen, Horsley, Kocher, Cushing, the Mayos, Dunhill and many others. He went on to say that although the road to the heart was two or three centimetres in direct line, it had taken surgery two thousand years to reach it. In spite of surgical adventures into all parts of the body, however, it took two wars to teach surgeons how to make surgery safe by reducing the mortality due to shock and haemorrhage.

After the war years (1914-1918) there was witnessed in Queensland, as in many other places, one of the most interesting mass experiments in post-graduate medical education. Large numbers of young men, on the completion of hostilities, had the inestimable opportunity of receiving post-graduate instruction from the very best men in the United Kingdom. The State was to gain from their experience, as the standard of medical practice was raised. The age of specialism became established. Thus medicine became a specialty, and it was not long before Jackson's lament that men were not interested in playing the role of physician no longer applied. Pathology, radiology, orthopaedics and other specialties were added to the older specialties of eye, ear, nose and throat diseases. A new generation of medical men had taken the stage, who were not averse to breaking a lance in argument with those separated from them in age by almost three decades.

It was to one of the latter group, however, that the men of the new generation went for help in founding a school of medicine in Queensland. As one of those interested in this movement, I asked Jackson to stand for the position of president of the Queensland Branch of the British Medical Association for the year 1926. Jackson pointed out that he was no longer young and had been president twice already. On being informed that he was required to sponsor a movement which he had inaugurated in 1913, he agreed to become president for a third time. His work was of inestimable value in the long series of events that led to the foundation of the Faculty of Medicine in 1936.

Sociology, Economics and Medicine.

I come now to the concluding section of this lecture—to consider certain aspects of sociology and economics in relation to medicine. Owsei Temkin, in a most interesting essay on the usefulness of the history of medicine (1936), states that "social and economic aspects have become increasingly important and of paramount interest". These aspects of medical practice are by no means new, and in fact engaged the attention of members of the Medical Society from the very early days. Dr. C. F. Marks, president of the Queensland Branch of the British Medical Association in 1896, made a proposal in his presidential address for a State medical department. His suggestion was that, "seeing that Queensland has 200 medical practitioners earning between £300 and £2,000 per annum, 8s. per head of population raised through the Customs Department say, would finance a service". The organization suggested was on the lines of the army medical service, the country being divided into districts having a senior medical officer and a junior medical officer to assist. In 1900 Dr. Taylor said that if professional competition could be done away with and each practitioner's present and future liabilities be assured by some system as advocated by Dr. Marks, a great majority of men would be active in the realm of medicine, and there would follow the advancement of medicine and human welfare.

Such problems are of course of great concern to the leaders of the medical profession today. To quote Temkin again: "The social and economic aspects of medicine have led to political debates inside and outside the profession about the desirability of individual practice, health and insurance and State medicine." These aspects of the matter also are not new here. Thus Jackson, in his first

presidential address in 1895, in which he struck a most pessimistic note, said: "We are not represented in the Legislative Assembly and I do not think we could do much good if we were. Our representatives in the Legislative Council [Dr. Taylor and Dr. Marks] are not supported. The Board of Health is advisory only. There is want of unanimity in the profession." In spite of his pessimism however, he did not despair, and took steps to form the General Purposes Committee to remedy some of the problems to which he had drawn attention.

Our predecessors were constantly at loggerheads with those responsible for the control and maintenance of public medical utilities of one sort or another, whether they were officers of friendly societies, local authorities, hospital committees and boards, or State and Federal Governments, no matter what their political faith happened to be at the time. Queensland, of course, is not unique in this respect, and many pages of the old journals are devoted to accounts of the "battles of the clubs" and other similar battles in one State or another. Nor is Australia alone in this as you know from the reports of medico-political matters in Great Britain. The subject, too, has become a very live one in America, and no one can say what the end will be.

Why has it been so difficult to persuade the authorities to allow the medical profession to be, in Bancroft's words, "their best advisors in sickness and health"? Why is it, when Australian representatives of the medical profession advise that the first thing to be done to secure the people's health is to ensure good nutrition, hygienic conditions and adequate housing, the Federal Government offers as an alternative free medicine and free medical services? One must record that each side of the dispute accuses the other of having vested interests in the problem. Is there any evidence that either side has suggested submission of the problem to a disinterested third party of high judicial status?

Of course progress was made from time to time in dealings with authorities of one sort or another; but it was achieved only after much hard work and with much frustration, and the degree of success obtained was not commensurate with the effort that was expended.

As long ago as 1887 colonial governments were urged by the medical profession to proceed with measures to prevent the introduction of diseases into the colonies. It was a long time before we had an efficient system of quarantine. From that day on arguments proceeded over many topics, many of which I have mentioned, and one other, the satisfactory control of the conduct of medical practice, which I merely note.

However, perhaps the most important sociological problem is the question of the falling birth rate, and attention was called to this not only by men of the Medical Society of Queensland from very early times, but also by their colleagues in other States. Thus Dr. M. U. O'Sullivan, president of the Medical Society of Victoria in 1907, revealed that Australia's birth rate per thousand in 1891, which was 34.23, had fallen in 1905 to 26.10. (The figure in 1938 was 17.46.) Dr. O'Sullivan told of the downfall of Greece "which was not owing to war or to plague but mainly to a repugnance to marriage and reluctance to raise families". Is it not true today, as in 1907, that "grief may tread upon the heels of pleasure and that the hour may come when through a national calamity or reverse we may suffer a similar fate, and die from the want of men"? Is not our declining birth rate due to the fact that, instead of being concerned with the problems of living together, we have been engrossed in other matters? In far too many instances mere facility in "the three r's", which has been mistaken for education, has proved to be the key that has opened Pandora's box to let loose a flood of trouble. We are not unique in this respect. Sigerist writes of America: "The Government is fully prepared to spend millions of dollars for scientific research but hardly any money on research on how to apply our scientific knowledge for peaceful purposes, to promote the welfare of the human race rather than to destroy it." This author draws attention to an appropriate cartoon in *The New Yorker* in which the worried parents of a sick boy ask him: "But what on earth do you want to be a scientist for, Robert? Isn't there enough trouble in the world already?"

Conclusion.

And now my lecture is finished. I have tried to tell the story of the successes and failures of those who held the stage in the days of old. You must judge for yourselves whether I have seen the leading characters through the rose-tinted spectacles of anecdote; but I feel that they have preserved and handed on the Hippocratic tradition, and that it is fitting that we celebrate this diamond jubilee.

Acknowledgement.

I wish to thank Mrs. McGregor and Miss Heineman of the Library and secretarial staffs of the Medical School, University of Queensland, for much assistance in the preparation of this paper. I also owe thanks to Professor Alex. Murphy, who lent me his copy of the Jubilee Memorial Volume, "Our First Half Century, a Review of Queensland Progress". I desire also to thank Mr. Bagnall for the trouble he has taken in preparing the lantern slides shown with this lecture.

THE DISORDERS OF MICTURITION.¹

By H. H. SCHLINK,
Sydney.

THERE are few specialities with which the Section of Gynaecology and Obstetrics of this Branch could pool its experience with more profit to each than with the Section of Urology. The relationship between the two specialities is so close, from the points of view of both anatomy and historical development, that in many institutions abroad urology as applied to the female has been combined with the department of gynaecology.

In 1893 Howard A. Kelly, the famous Johns Hopkins professor of gynaecology, was the first to introduce instruments and methods of cystoscopy to the Anglo-Saxon world. Nitze, of Germany, four years earlier had described his invention, the first indirect cystoscope. However, Kelly's instrument was the first which made ureteral catheterization feasible as a routine procedure.

The subject chosen for discussion this evening, the disorders of micturition, is all-embracing, and to discuss it in detail would mean traversing nearly the whole range of urology and a good part of gynaecology. Tonight I propose only to touch on those lesions which are commonly met with in gynaecological practice and of which I have had practical experience.

ABNORMALITIES.

Congenital abnormalities of the urethra are extremely rare. The only ones with which I have met have been abnormally placed external orifices and an absence of the anterior wall of the epispadias variety. I have never met with a case of true congenital hypospadias—that is, absence of the posterior wall of the urethra—but I have seen patients in whom the meatus opened within the vagina, the abnormality leading to dripping.

TYPES OF INFLAMMATION AND THEIR SEQUELAE.

The Urethra.

Urethritis, specific and non-specific, occurs frequently; but the advent of the sulphonamides and penicillin has prevented much of the gonorrhoeal urethritis from becoming chronic. The urethra, like the vagina, is fairly resistant to infection, which usually clears from there long before it disappears from other areas, but often leaves complications. I have met with abscesses of Skene's glands which were swollen to the size of a golf ball, and on several occasions with large suburethral abscesses arising from diverticula or glands on the floor of the urethra and pointing into the vagina. Their incision and evacuation did not lead to fistula formation as might have been expected. A sequela of inflammation which occurs more often than is thought is stricture, which must be treated by dilatation before the gleet and frequency of micturition disappear.

¹ Read at a meeting of the New South Wales Branch of the British Medical Association on August 29, 1946.

On several occasions I have met with thick, dense periurethral infiltration extending from the meatus to the bladder and resulting in frequency of micturition and dysuria. Such urethrae feel like a thickened pencil and have multiple narrowings. Irrigation and dilatation were the methods of treatment. I have met with several cases of syphilitic chancre involving the urethra and causing frequency of micturition and pain, and with two cases of *granuloma inguinale* causing ulcerative destruction around the meatus.

Many women after the menopause suffer from atrophic lesions around the meatus with an accompanying urethritis. The oestrogen hormone is a sovereign remedy. Lastly, we must never forget that diabetic and other irritating types of urine are a constant source of inflammation of the urethra and vestibule.

The Bladder.

Inflammation of the bladder, or cystitis, is one of the commonest complaints of women. The infection may be (i) primarily ascending, (ii) primarily descending along the urological tract, (iii) secondary to inflammation of the pelvis or some other distant focal infection. Its pathological lesions are various.

Firstly, one warning may be given to those about to proceed on their gynaecological careers, never to open an abdomen for pelvic inflammation until the condition of the bladder has been thoroughly explored, as the physical signs of cystitis often resemble those of salpingitis, and vague pains in the iliac fossæ extending to the loins are often due to pyelocystitis. When in doubt, consult with your colleague, the urologist. *Per contra*, the warning may equally be given to the urologist not to continue his bladder treatments indefinitely without asking the gynaecologist's opinion about the presence of an inflammation or a growth in the genital tract.

Descending Infections.

The most serious inflammations of the bladder are those descending from higher tract lesions—pyelonephritis, pyonephrosis, calculus and renal tuberculosis—many of which produce no localizing symptoms and are unsuspected until intractable cystitis forces further investigation. This field belongs entirely to the urologist. The gynaecologist, however, is concerned in almost all other cases of cystitis—in the ascending infections from the urethra, in those secondary to pelvic inflammation and in those due to retention of urine caused by cystocele, prolapse *et cetera*. The bacteria responsible for the common forms of cystitis are the members of the colon bacillus group and staphylococci, and less frequently various forms of streptococci, enterococci, *Bacillus proteus*, *Bacillus pyocyanus* and gonococci.

The parasitic infections are bilharziosis, echinococcus infection, amoebiasis, trichomoniasis, moniliasis and various nematode infections. After the 1914 war I came across several cases of bilharziosis among male patients who had been in Egypt. The only other cases of parasitic origin in my experience were due to *Trichomonas* and *Monilia*.

Secondary Infections.

The treatment of secondary infections due to residual urine resulting from cystocele and prolapse and those secondary to chronic cervicitis and other forms of pelvic inflammation are all the province of the gynaecologist, except possibly those long-standing cases in which there is a localized intensification of the chronic cystitis characterized by redness and bulbous oedema over the trigone and commonly known as trigonitis, one variety of which is pseudomembranous.

Ascending Infections.

In practice the two specialities will always share that not inconsiderable group of patients suffering from so-called simple acute cystitis, in which no associated lesions of any moment or consequence can be demonstrated. Such attacks may be due to menstrual congestion or to over-copulation; they may be secondary to mild respiratory infections, or may follow exposure to cold, or may be due to voluntary over-distension of the bladder during long motor-car journeys, and to other circumstances. The fact that primary simple cystitis occurs almost exclusively

in females would suggest that an ascending infection through the short female urethra is responsible.

The attacks of this type of cystitis are usually of short duration and tend to yield readily and quickly to the usual simple forms of therapy. Any failure to respond should indicate a further search for high urological tract infection, pelvic inflammation, prolapse, cystocele and pelvic tumours, and lastly, a general examination of all systems should not be forgotten, to ascertain whether any source of focal infection exists.

There are several rare forms of cystitis that should be mentioned: incrusted cystitis, in which urinary salts become deposited on ulcerated surfaces within the bladder and form a tenacious crust; Hunner's elusive ulcer, which involves all coats of the bladder over an extended area with a small mucosal ulcer which is difficult to find cystoscopically; late post-irradiation ulcers, which occur many months or even years after vaginal and cervical application of radium, especially in the days when the radium element was insufficiently screened; and as a matter of historical interest, ulcers from the not sufficiently insulated lamps of the early cystoscope.

OVERGROWTHS AND NEOPLASMS.

Prolapse of the Urethra.

Although it is not a neoplasm, it is convenient to deal with prolapse of the urethral mucosa in this section. It is an entire falling out of the lower end of the mucosa, part of which may be thrombosed, and differs from the sagging of the entire urethra which is associated with cystocele and is referred to as urethrocele. The patients who have come under my care were treated by an annular excision of the redundant mucosa and stitching of the cut urethra to the mucosa of the surrounding vestibule by mattress sutures, which were inserted prior to the removal of the prolapsed part in order to prevent retraction of the cut urethra. The procedure is similar to Whitehead's operation for haemorrhoids, which the condition much resembles. Some surgeons recommend diathermy at four points of the compass for this condition especially in the treatment of old, emaciated subjects; but in all my cases healing was satisfactory and results were good.

Polypi of the Urethra.

Cysts of the paraurethral glands or local overgrowths of the mucosa occasionally form polypi. Those I have met with were drawn down, ligatured or cut off with a diathermy knife.

Caruncles of the Urethra.

Caruncles of the urethra are fairly common, and are usually localized on the floor of the meatus, but they are occasionally multiple and spring from the entire circumference of the external orifice. Caruncles are usually sensitive, and give rise to frequency and urgency of micturition and dysuria, and to extreme nervousness. Their size is no indication, as the smallest often produce the most pronounced symptoms. In my experience the best method of treatment is clean, wide surgical excision. One need not fear removal of healthy mucosa, as it is well known that the urethra can be removed almost up to the internal sphincter without the production of incontinence. Surgical removal of caruncles is followed by healing more quickly than any form of fulguration and is less apt to produce operative stricture of the meatus. The base should be ligated with mattress sutures to the mucosa of the vestibule, or the raw surface may in certain cases be thoroughly treated with diathermy to stop haemorrhage.

Two patients under my care had cauliflower surfaced tumours springing from the entire circumference of the external orifice. One was the size of a walnut, and appeared like a huge venereal wart tumour, in the centre of which the meatus could be found. Its regularity of origin prompted me to make an annular incision around the meatus, pull the tumour and the lower freed end of the urethra down and cut the tumour off, the healthy urethra being sewn to the annular cut in the vestibular mucosa. Pathological examination revealed that one tumour was an innocent papilloma and that the other was innocent with a premalignant tendency. The patient from whom the latter was removed was subjected to a course of deep X-ray therapy. Both patients are well and show no signs of recurrence.

Carcinoma of the Urethra.

I have met with a number of carcinomata of the squamous variety originating from the clitoris or labia and involving the urethral orifice. I have also met with several straight-out carcinomata of the urethral orifice. In the treatment of the first variety I have excised the mass along with the inguinal glands and recommended a course of post-operative deep X-ray therapy. In the second variety of meatal origin, I have inserted radium needles, and after the disappearance of the tumours have recommended the patients for a course of deep X-ray therapy. Some surgeons advise removal of the growth and of the whole of the urethra to just below the internal sphincter at the base of the bladder. Others again take away the base of the bladder and deal with the post-operative incontinence of urine by various methods. They advise removal of the inguinal glands at the same time; but I see little point in this procedure if the growth is purely urethral, as its lymphatics drain mostly towards the base of the bladder. I have had no experience of these radical operations on the urethra. The outlook for patients with these growths is very poor. The only statistics of which I know are the 25 cases collected by Crossen, 11 of the patients having survived for more than two years. No five or ten year statistics were given.

Benign and Malignant Papillomata of the Bladder.

Papillomata of the bladder come entirely within the province of the urologist. However, there are two varieties of growth secondarily involving the bladder which are of interest to gynaecologists. The first is extension of malignant disease of the cervix to involve the bladder wall. If it is localized, the growth with all layers of the bladder wall should be removed and the hole sewn up in layers, the bladder being kept empty by catheter drainage. The other condition is when a deposit of endometriosis is implanted upon peritoneum covering the bladder wall. It first grows through the peritoneum, then attacks the bladder wall, and in rare cases erodes through the mucosa of the bladder, the tumour being visible by cystoscope. I have never met with such an advanced case, but I have removed many patches of endometriotic origin from the peritoneal and subperitoneal layers covering the bladder. Probably these were recent deposits, and had they been left to develop, might have grown through to the bladder mucosa.

FOREIGN BODIES AND CALCULI IN THE BLADDER.

Foreign bodies and calculi in the bladder are best left to the urologist; but I may quote one interesting case that came in my experience while I was superintendent at the Royal Prince Alfred Hospital.

A girl thought she was pregnant and was advised to insert a tent into her cervix. Knowing little about anatomy, she inserted it into her bladder. I was called to the operating theatre by a harassed resident medical officer, who had had the patient under anaesthesia for two hours. He had dilated the urethra large enough to insert a finger into the bladder, but he could not pull the swollen tent out. He suggested suprapubic cystotomy. However, he had forgotten that the silk thread was in those days tied around the middle of the tent, and this accounted for his failure to extract it. The well-dilated urethra allowed a forceps to be applied to one end of the tent, so the large, swollen tent was easily delivered end on.

RETENTION OF URINE.

Complete retention of urine or retention of large amounts of residual urine is rare in the female, except as a post-operative or post-partum complication.

Obstructive Retention.

The obstructive lesions within the urethra or at the neck of the bladder—stricture, polypi, stone *et cetera*—usually fall into the hands of the urologist. On the other hand, obstruction of the urethra caused by external compression usually has a gynaecological cause—pelvic abscesses, incarcerated myomata, haematocele; but the one most commonly met with is an incarcerated retroverted pregnant uterus. Cystocele and uterine prolapse rarely give rise to anything more than the retaining of the residual urine.

The retention can usually be relieved by replacing the bladder or uterus, and patients learn to do this for themselves.

Nervous Retention.

Psychological and neurological retention of urine usually requires specialists in that variety of disorder; but if you come across any of these cases, acetyl betamethol choline bromide in oral doses of 0.2 grammes three times a day is said to increase the tone of the detrusor muscle and give the desired result.

Post-Operative and Post-Partum Retention.

As was stated before, the forms of retention of urine with which the gynaecologist and obstetrician are most likely to have to contend are those following operation or childbirth. Plastic operations on the anterior vaginal wall are the greatest offenders, no doubt owing to oedema compressing the urethra or vesical neck. I shall not go into the relief of these conditions, as you all probably have your own successful methods. However, pre-operative attention to your patients suffering from cystitis and the avoidance of over-distension after operation by the judicious use of the catheter are all that need be stressed. Even after a Manchester operation I rarely use an indwelling catheter, and find that the patients progress just as well. Whenever there is any infection of the bladder resulting from residual urine in long-standing cases of prolapse it is wise to use pre-operative lavage and to continue the administration of sulphonamides or other urinary anti-septic drugs. In cases in which catheterization is prolonged or an indwelling catheter is used, the oral exhibition of six to twelve grammes of ammonium or calcium mandelate per day is said to prevent infection, incrustations and the clogging of the catheter.

INCONTINENCE OF URINE AND FISTULÆ.

The congenital defects of the urinary system causing incontinence—hypospadias, epispadias, exstrophy of the bladder, *et cetera*—mostly come within the province of the urologist or general surgeon. Lesions involving the nerve control of micturition—*tabes dorsalis*, spinal tumours, transverse myelitis, Pott's disease, *et cetera*—concern the physician and the neurosurgeon. There is one variety of causes resulting in involuntary voiding known as enuresis, which frequently comes before the gynaecologist.

Enuresis.

The condition is predominantly one of childhood and of nocturnal type—bed-wetting, as it is commonly called. Of the cases, 90% are functional and are not associated with any definitely demonstrable urological or organic neurological cause. As all know, in the infant the act of voiding is a low spinal reflex and entirely involuntary; but with the normal development of the child cerebral control of this reflex mechanism takes place usually by the end of the third year. Functional enuresis consists merely in bed-wetting beyond the average age. Usually it spontaneously cures itself as the child grows older or responds to simple medical or psychological treatment—that is, training and the inculcation of good habits. In the 10% of what might be called secondary or pathological cases, the enuresis may be caused by thread-worms, vulvo-vaginitis, masturbation, faulty bowel action, stricture with residual urine and infection, or one of the more serious urological lesions, renal or ureteral. Diabetes must not be forgotten. Only after the failure of psychological measures, regulation of habit and possibly the exhibition of belladonna should full urological examination be undertaken in these cases.

Incontinence of Urine due to Trauma or Disease.

Lastly, we come to cases of incontinence of urine due to weakening or relaxation of the urethral sphincter mechanism, and to defects of the urinary system resulting from trauma or disease—that is, destruction of the urethra, partial or complete, and urethral, vesical and ureteral fistulæ, all of which primarily concern the gynaecologist; especially is this true of fistulæ of the urethra and bladder, which I may say from the outset should all be repaired from below, and not intravesically as some urologists attempt to repair them.

Stress Incontinence.

Stress incontinence of urine is the commonest form of incontinence in women, and is due to weakening or relaxation of the sphincter mechanism of the urethra resulting from childbirth, or it may come on about middle age without being associated with any visible lesion of the urinary tract. In most cases it is due to relaxation of the urethral sphincters, the internal vesical sphincter at the base of the bladder being more often at fault than the external sphincter. Kelly devised an excellent operation for strengthening the internal sphincter and suburethral tissues. However, in most cases there exists a condition of more or less severe cystocele or prolapse, which must be cured at the same time if good results are to be obtained. Surgery of this type had best be left to the gynaecologist, who in performing his anterior colporrhaphy takes in his stride defects in both the internal and the external sphincter. Moreover, in most of these cases a proper union of the *levatores ani* is needed as an accessory support to the elevated bladder and repaired sphincter.

Apart from relaxed sphincters, there are cases of stress incontinence due to increased intravesical pressure brought about by large pregnant uterus, pelvic tumours, prolapse and even a large rectocele pressing on the bladder. These naturally come into the domain of the gynaecologist. One type of incontinence and increased intravesical pressure falls into the hands of the urologist—namely, that caused by stricture of the ureters or by other lesions in the upper part of the urinary tract. Occasionally both factors operate (weakened sphincters and increased intravesical pressure) and in these cases it is wise for the urologist and the gynaecologist to consult with each other.

Destruction or Absence of the Urethra.

Destruction or absence of the urethra is extremely rare. Congenital hypospadias occurs very seldom. The acquired condition is usually the result of obstetric trauma and sloughing, and cases have been recorded in which the whole urethra has been torn away by careless forceps manipulation. Plastic operations have been devised to form a new urethra; but its function is often deficient unless the base of the bladder and the vesical sphincter region have been strengthened by straps of rectus fascia and pyramidalis muscles brought down posteriorly to the *symphysis pubis* and attached underneath the base of the urethra and vesical neck. Some surgeons have used the gracilis or *levator ani* muscle for this purpose. I have had no experience of these plastic operations beyond advancing a meatus opening into the vagina to a more anterior position so as to avoid the vagina's being flooded with urine.

Urinary Fistulae.*Etiology.*

In olden days the majority of urinary fistulae were caused by tears following the application of forceps in delivery or by pressure caused by an unduly prolonged second stage of labour. The great improvement in the management of labour in modern times has almost eliminated these cases of urinary fistulae; but the great increase in gynaecological surgery and the frequent use of radium in the vagina have taken their place as new aetiological factors. In plastic vaginal surgery the fistulae are due to cutting or tearing of the bladder or to strangulation of a portion of the bladder wall within a suture, which later leads to sloughing. In the cases resulting from irradiation the fistula may appear months or even years after the application of radium. The increase in the number of hysterectomies performed has further increased not only bladder but ureteral fistulae.

Other causes, which as a result of improved knowledge and treatment are growing less and less frequent, are neglected pessary ulceration, broken-down syphilitic lesions and extensive cervical cancers.

Diagnosis.

A few words may be said with regard to diagnosis. Large fistulae present no problem in diagnosis, but incontinence of urine due to pin-point fistulae of the bladder must be differentiated from incontinence of urine due to impaired sphincter mechanism on the one hand and from

that due to uretero-vaginal fistulae on the other. In the first case, if when the bladder is full there is no visible spurting of urine from the urethra on straining, while at the same time the vagina fills with urine, the presence of a fistula is established. To distinguish a small vesico-vaginal from a uretero-vaginal fistula, a gauze plug is placed in the vagina and the bladder is filled with coloured fluid. If the gauze is stained, a bladder fistula exists; if the gauze is only wetted with non-stained urine, the ureter is involved. Vesico-uterine fistulae will, of course, lead to staining of the gauze in the same way as vesico-vaginal fistulae.

Treatment.

Before operating on the vaginal wall, the amount of scarring, the fixation of the cervix *et cetera* must be studied. Cystoscopic examination is necessary in certain cases in which the fistula is near the vesical orifice and internal sphincter, and especially if it is close to the ureteric openings. Care must be taken that these last-mentioned orifices are not caught up in the sutures. If that part of the bladder wall containing the intravesical portions of the ureters is involved, catheterization may be necessary to ascertain if any stricture is present, and on occasion the operation must be delayed until proper dilatation is secured. In such cases the catheters should be left in position while the operation is in progress. The urologist should be consulted in these cases.

For fistula operations, the rules of Marion Sims are as good today as when he first enunciated them: (i) careful pre-operative preparation of the patient; (ii) carefully devised instruments and positions by which to secure adequate exposure for operation; (iii) skilfully planned and executed technique of operation; (iv) meticulous post-operative care.

The vagina and bladder must be clean and the urine made acid. Except in cases suitable for immediate repair, at least six months should be allowed to elapse after the appearance of the fistula or after an unsuccessful attempt at closure has been made. In some cases the left lateral or knee-chest position is better than the lithotomy position for operation, and if adequate exposure is impossible there should be no hesitation in securing more room by paravaginal incisions. For fistulae high in the vault or between bladder and uterus the transperitoneal approach is recommended. The transvesical approach in my opinion is always bad.

Vesico-vaginal Fistula.—The technique of repair of vesico-vaginal fistulae is usually fairly simple. After an annular incision has been made through the vaginal mucosa, the bladder should be well freed all round and then the bladder wall and mucosa freshened. Lambert's sutures through the bladder wall, but not through the mucosa, should be the first layer, and sutures through the vaginal mucosa the second, and if possible these should not be superimposed on each other. Criss-cross union is sometimes possible. Plain gut may be used throughout, and sutures should be snug but not strangulating. If there is any great tension it may be eased by counter-incisions throughout the vaginal portions of the septum at appropriate distances from the fistula.

Vesico-urethro-vaginal Fistula.—In operations for vesico-urethro-vaginal fistula the separated ends of the vesical sphincter should be reunited as well. In cases in which the vesical neck has been involved, it has recently been suggested that the usual post-operative catheter drainage had best be accomplished through a vaginal cystotomy wound well above the region of the fistula. It is said that such cystotomy wounds tend to close as soon as the catheter is removed even without suturing; otherwise the prone position after operation is recommended.

Urethro-vaginal Fistula.—Urethro-vaginal fistulae may be closed over a catheter, and if they are well below an intact sphincter little trouble will be met with. The nearer fistulae are to the vesical sphincter, the more attempts at cure are likely to fail; but usually the bad results are due to mismanagement of the patient after operation.

Vesico-uterine Fistula.—Under the heading of vesico-uterine fistulae we may include fistulae occurring in the vault scar after a total hysterectomy has been performed.

Except for the difficulty of access, which can be helped by a paravaginal incision at the introitus, these readily respond to three-layered suturing. After annular excision, sometimes it is convenient merely to ligate the neck of the dissected fistulous tract before closing the vaginal layer. The true vesico-uterine fistulae present more difficulty. If they open into the cervix low down, they can be approached from the vagina. The bladder must be freed from the cervix and its fistula closed. The cervical tract may be dissected out or merely covered over; but it is important that when the repaired areas are being replaced they do not approximate. This can usually be accomplished by fixing the bladder a little higher. One interesting condition that I saw with Dr. J. W. S. Laidley may be mentioned.

The patient's uterus was curetted in the country, and a urinary fistula developed. At operation it was found that the cervix had a stellate tear, one branch of which ran up the middle of the anterior lip. In affixing the volsenum prior to curettage the doctor had got the very apex of the tear, and the anterior hook passed through the bladder. It was a pardonable accident, and might have happened to any surgeon. An approach from below, the bladder being separated from the cervix, the bladder fistula closed and the torn anterior lip repaired, produced a complete cure.

Vesico-uterine fistulae that open high up in the cervix or in the lower part of the uterine cavity must be approached transperitoneally. From above the bladder is separated from the cervix, the fistula in the bladder and the sinus in the uterus are repaired and the parts are reapproximated, care being taken that the two repaired areas are separate from each other. This is easily accomplished by bladder fixation.

Uretero-vaginal and Uretero-cervical Fistulae.—Uretero-vaginal and uretero-cervical fistulae are rare, and usually the result of injury to one or both ureters during the performance of total hysterectomy or the removal of large broad ligament or adnexal tumours. The injury may be due to any of the following causes: (i) complete or marginal ligation of the ureter with consequent sloughing; (ii) crushing with forceps; (iii) external stripping and interference with the blood supply, resulting in sloughing; (iv) incision and partial division of ureter; (v) complete division of the ureter, either intentional or accidental, and resection. The third cause, external stripping and interference with the blood supply, must be very rare. In view of the large number of Wertheim's radical hysterectomies performed I cannot recollect one case in this category. I remember one case associated with a large cervical fibroid tumour. The blood supply was evidently interfered with, and this resulted in a uretero-vaginal fistula with an impassable stricture of the ureter below the fistula. The kidney had to be removed by Dr. Laidley. A few of these uretero-vaginal fistulae may be cured by the passing of a ureteral catheter and repair of the fistula from below. The catheter must be left *in situ* until healing is complete; but in most of these cases reimplantation of the severed end into the bladder or removal of the kidney on the side affected is required. In this event one always examines and investigates the function of the opposite kidney before removal of the affected kidney.

OPERATIONS ON THE URETER.

It does not come into the province of this paper to discuss the various types of ureter repair or uretero-vesical implantation; but it will be helpful for those who may cut and injure the ureter in the course of an extensive operation to know of Frecker's instrument. I have used this instrument in some half-dozen cases in which the ureter had been accidentally or intentionally divided in the removal of uterus affected by malignant disease. The use of this instrument ensures against the common cause of failure of most uretero-vesical implantations—namely, that of not fixing the end of the ureter inside the mucosal lining of the bladder. Owing to the plicated nature of the lining, many ureters have had the end fixed between the muscularis and the mucosa, with consequent stripping of the layers by extravasated urine; this results in the death of the patient or in failure to cure the fistula.

Another method of dealing with such an accident when the other kidney is sound and healthy is to tie the ureter off with silk. The kidney usually atrophies without

much trouble. When carrying out either of these procedures, do not forget to tie the distal end of the cut ureter.

CONCLUSION.

In all operations carried out for the cure of urinary fistulae, an indwelling catheter must be used after operation for from ten to fourteen days. If the fistula is above and well away from the internal vesical sphincter, a de Pezzer catheter may be used; but if the fistula is close to the sphincter, it is better to use an ordinary Jacques catheter fixed by a stitch or to the thigh. The care of the catheter is of first importance, and from bitter personal experience I have learnt that this should be attended to by the surgeon himself, and should not be passed on to the resident medical officer. At all events, the resident medical officer should in the case of blockage or other mishap be instructed to do nothing until he consults with the surgeon. It is also advisable to give some urinary antiseptic drug to patients who have indwelling catheters, and a dose of six to twelve grammes of ammonium or calcium mandelate per day is suitable. Sulphonamides are also valuable, but do not acidify the urine. In cases in which the catheter causes extreme bladder irritability, the following mixture is valuable: tincture of hyoscyamus one ounce, potassium citrate one ounce, water to six ounces; one teaspoonful in a wineglass of water is taken three times a day after meals. A blockage of the eye of the catheter may be cleared by a sharp, forcible injection of argyrol. If the catheter has to be removed or replaced, it should be done by the surgeon himself, and in the case of the de Pezzer catheter a stylet should first be inserted to flatten out the head before it is withdrawn.

DISORDERS OF MICTURITION IN THE FEMALE.¹

By A. B. WALKER-SMITH,
Sydney.

THE subject under discussion tonight is disorders of micturition in the female, and it should be appreciated that the female urinary tract is liable to the same diseases as that of the male with regard to infections, stone, neoplasm *et cetera*. Many disorders of micturition have their origin in the upper part of the tract, and I do not propose to deal with these, but shall confine myself to conditions observed in the urethra and bladder.

It is common knowledge that urinary symptoms in women can exist in the presence of a perfectly normal urinary tract, and that they are then due to diseases or displacements of adjacent pelvic organs. There are numerous borderline cases, and the urologist should have sufficient realization of the pathology of the female genital tract to enable him to refer patients to the gynaecologist instead of continuing to treat people with urinary symptoms and no disease of the urinary tract. The essential difference in the urinary tract of the sexes is the urinary outlet. In the female, the urethra is a short tube of comparatively wide calibre and there is no prostate to complicate matters. Consequently, one would not expect obstructive symptoms from intrinsic disease of the urethra to be common. Controversy has raged for many years about whether periurethral glands exist in the female urethra. I do not know; but the paraurethral glands of Skene do exist, and when infected, they are responsible for symptoms.

AFFECTIONS OF THE URETHRA.

Pathological conditions of the female urethra are the most frequent cause of the common disorders of micturition, which are frequency of micturition and pain on passing urine.

Infective Conditions.

The female urethra is susceptible to the same infections as the male urethra. The gonococcus is the commonest invader, but non-specific infections are relatively frequent.

¹ Read at a meeting of the New South Wales Branch of the British Medical Association on August 29, 1946.

The entity known as abacterial cystitis often starts as quite mild urethritis, which is followed by symptoms that are anything but mild. May I be pardoned if I say a few words about this disease, which has been the subject of several recent letters in THE MEDICAL JOURNAL OF AUSTRALIA? The disease has been recognized by urologists for many years. On cystoscopic examination the appearances are often rather suggestive of tuberculous cystitis. I have never seen patients suffer more distressing vesical symptoms than in some of these cases, and in certain instances arsenic has no effect whatsoever, although it is beneficial and sometimes curative in other cases. Several of my patients have responded well to penicillin therapy after resisting all other forms of treatment. The acute inflammatory process appears to be confined to the bladder and urethra. I have known the urine to be sterile on attempted culture and on animal inoculation after a catheter has been tied in for some days—a fact which leads one to the belief that the unknown virus has possibly an inhibitory influence over the ordinary organisms that flourish in the bladder.

Chronic Urethritis.

The urologist is concerned frequently with chronic urethritis, a disease which causes much distress and disability. Generally there is no history of urethral discharge, and the aetiology is obscure. Urgency and frequency of micturition and scalding during and at the end of the act are the main symptoms, and many women complain of a "bearing-down" feeling and of the sensation that they have incompletely emptied the bladder. Vague pains are experienced in the loins, back, iliac fossæ *et cetera*, and haematuria and partial incontinence also occur.

The diagnosis is made by cystoscopic examination. The urethra is often "tight" and may require dilatation before a number 21F cystoscope can be passed. As a rule the bladder is tolerant, although in a proportion of cases some degree of cystitis is evident. A constant finding on cystoscopy is a varying degree of congestion and oedema at the internal meatus on its posterior aspect, with similar congestion of the posterior portion of the urethra. Hyperplastic changes and polypi are also noted on occasions. The remainder of the bladder may be perfectly normal and the urine clear and sterile. In about half of the cases there is evidence of cystitis and trigonitis. In others again, there is an appearance at the bladder neck which resembles the median prostatic bar of the male. These patients are often referred to a gynaecologist to ascertain whether any pelvic infection is present; but in most instances none is found.

In the treatment of the condition, "Argyrol" (5% solution) is instilled twice a week, and the urethra is gradually dilated with metal bougies. Alkalies and copious fluids are prescribed, and if cystitis is present, it is treated with bladder irrigations and sulphonamides. In some cases, light diathermy to the bladder neck has produced good results when the treatment described has failed. Treatment is continued for about six weeks, and most patients respond well; others, particularly those with a long-standing history, are not benefited to any great extent.

Stricture.

Urethral stricture in the female is of more common occurrence than is usually recognized, and it may be congenital or traumatic or may be a sequel to specific or non-specific urethritis. Congenital stricture appears to occur at the external meatus.

At present I am treating a woman, aged fifty years, with congenital absence of the vagina, who gave a history of increasing difficulty and frequency of micturition of three years' duration. The external meatus was extremely stenosed and rigid, and difficulty was experienced in passing a small instrument. The fibrosis extended for about half an inch into the anterior portion of the urethra, and I did not think that a meatotomy would be more efficacious than dilatation in this particular instance.

The urine was clear, and it is interesting that symptoms were apparent only for three years. What the factor was that caused symptoms at that stage I do not know, as I

imagine that some degree of stenosis had always been present. Instruments passed at intervals of two months keep her free from symptoms.

Traumatic Stricture.

The female urethra may be damaged rarely as a result of instrumentation, and it may be damaged at childbirth; but it is not so vulnerable to external violence as the male urethra.

On one occasion I treated a woman with acute retention of urine due to a very tight stricture. Two years previously a large vesical calculus had been crushed, and I have no doubt that the stricture was caused by trauma to the urethra during the operation. The urethra is now dilated at intervals of six months and she remains free from urinary troubles.

Inflammatory Stricture.

Inflammatory stricture is the most common variety, and although a history of previous urethritis is not always obtained, its occurrence is suspected. The most frequent sites of the lesion are at the external meatus or in the anterior two-thirds of the urethra.

Symptoms.—Urgency and frequency of micturition and scalding are common complaints, and the severity of these symptoms is dependent upon the presence and degree of cystitis, which is frequently evident. Difficulty of micturition is not so common a complaint as in the male, but after-dribbling is a frequent symptom. In fact, some patients are referred for incontinence of urine, and the diagnosis is not established until an attempt is made to pass a cystoscope. Acute retention of urine is uncommon in my experience. Some measure of infection is the rule, and the commonest organism is the *Bacterium coli*. In the majority of cases no urethral discharge is manifest; but it does occur, and its source of origin is frequently an infection of the paraurethral glands of Skene, which, of course, may be involved without a concomitant stricture.

Diagnosis.—In practice, it frequently occurs that one sets out to perform cystoscopy and finds either that the instrument will not enter the urethra at all or that it is held up somewhere in the anterior two-thirds of the canal. Occasionally the obstruction is encountered in the posterior third. The urethra feels normal on palpation.

Treatment.—At first the stricture should be merely "fitted", and no attempt should be made at forcible dilatation. If a tight stricture is obvious at the external meatus, a meatotomy may be considered advisable. Dilatation of a meatal stricture causes more pain than in any other situation.

The patient is instructed to return in a week, and gradual dilatation is commenced. Cystoscopy is performed when the urethra will take a number 21F instrument. It is rare to see gross trabeculation such as is observed in the male, and the usual finding is a moderate degree of trigonitis and cystitis. Residual urine is rare. Pyuria will not be reduced until the urethra is moderately dilated. A catheter specimen of urine is then taken, and treatment with the appropriate sulphonamide is instituted. The intervals between dilatations are lengthened, and after full dilatation has been attained, the patient is advised to return in three months, or earlier if symptoms recur. If a large bougie then enters the bladder without difficulty, she is advised to return in six months. The tendency for stricture to contract is not so pronounced in the female as in the male. I have seen a number of elderly women who presented distressing symptoms of frequency of micturition and dysuria causing loss of sleep and exhaustion. The urine was clear, and no previous urinary history was elicited. In these women the urethra felt rather firmer than usual, and when instrumentation was carried out there appeared to be a uniform narrowing of the whole canal. Dilatation under anaesthesia produced a most pleasing relief from symptoms. The condition is probably due to atrophic changes, but I know nothing of the pathology. Cystoscopic examination has always given negative results. As was mentioned before, skenitis may be a source of urinary symptoms, and if persistent it is treated with the diathermy needle.

Trauma.

The female urethra is not so vulnerable as the male urethra to external violence, and childbirth injuries and surgery are responsible for most of these troubles. In the past, incontinence of urine was caused by enthusiastic surgeons who dilated the urethra with great abandon and then proceeded to haul out large calculi from the bladder. This procedure is not considered to be sound surgery today. However, I believe that a discussion of the mechanism of injury to the urethra is best left to the gynaecologists.

Diverticulum of the Urethra.

Fortunately, diverticulum of the urethra does not appear to be a common condition, and is stated by Hinman to be caused by herniation at a point of weakness due to a developmental defect or acquired by trauma, either extra-urethral or intraurethral, of which injury at childbirth is the commonest type. It may follow periurethral abscess or result from stricture of the urethra. A large stone or stones may form in the pouch, which, when it becomes infected, presents the condition of stasis *plus* infection, a state of affairs conducive to stone formation.

If no infection is present, no symptoms or only slight symptoms may be noted; but if infection supervenes, frequency of micturition and pain will occur.

I examined a woman, aged thirty years, who complained of urethral discharge and dyspareunia of three months' duration. On examination of the patient a diverticulum the size of a pigeon's egg was apparent. It was fluctuant and tender on palpation, and pressure produced a copious discharge of pus from the external meatus.

If the diverticulum happens to be empty at the time of examination, it can easily be missed, as the history will not necessarily lead one to suspect its presence. Urethrosopic examination and a urethrogram will reveal the diagnosis, and if a calculus is suspected, a plain X-ray picture should be taken before the urethrogram is made.

In treatment, urethral dilatation and irrigation may be tried. Conservative surgical measures consist in drainage through the vagina. This is suitable when an acute suppurative condition is present. Secondary closure is performed later. If the sac has a narrow neck and its walls are thin, it has been suggested that invagination of the sac and obliteration by a series of purse-string sutures may be adequate. Radical excision of the sac is the method of choice if the symptoms warrant such treatment. A prostatic tractor is a great help, in that it is a guide to the urethra and brings the affected part into a good position for operation. A urethral catheter is retained for about ten days after operation.

Prolapse of the Urethra.

Prolapse of the urethra is also a rare lesion, and results from all forms of strain. It generally occurs in debilitated, elderly women, and is stated to occur in young children. The complaint is of frequency of micturition and of a bearing-down feeling, with local pain and perhaps haemorrhage. On examination of the patient, a tumour is obvious at the external meatus. At first it is smooth and has the appearance of normal mucosa. Later, it increases in size and becomes red, oedematous and tender. Still later the surface is dull, and ultimately gangrene supervenes if no treatment is instituted.

In the treatment of prolapse of the urethra, reposition and the use of an indwelling catheter should be tried and may be efficacious.

I once saw the condition in an advanced stage, and was told that reposition had been effected twice and a self-retaining catheter inserted, but that the prolapse had recurred and could not be replaced. On examination of the patient, the tumour was almost as large as a small plum, and gangrene was commencing. At operation I passed a cystoscope as a first step, since cases of prolapse of the bladder through the urethra have been reported. The tumour was then amputated and the mucous edges were united.

It is advisable to insert stay-sutures before cutting the prolapse away completely with the scalpel or diathermy

knife, as the mucosa may slide up the urethra and stricture will be the inevitable result. A self-retaining catheter is inserted into the bladder for a week or ten days.

Tumours of the Urethra.*Urethral Caruncle.*

A true urethral caruncle is the commonest tumour of the female urethra. It appears to be most frequent in middle-aged women, and is always found at the posterior lip of the external meatus. This suggests that possibly it may originate in the paraurethral glands. There are two clinical types. In one, the tumour is sessile and is mostly intraurethral. In the other, it is pedunculated and mainly extraurethral. The tumour is bright red and often extremely tender. Frequency of micturition, pain and haematuria are common symptoms, and dyspareunia is a frequent complaint. Removal of the caruncle may be carried out by diathermy or surgical excision. I have had no experience of excision. In the treatment of the sessile type the urethra is fully dilated and the tumour is treated with the diathermy needle, with suitable retraction of healthy tissues. In dealing with the pedunculated type, a stay suture is inserted at the base and a loop electrode is placed over the tumour, which is removed with the cutting current. The base and any intraurethral extension are then treated with the diathermy current. It is advisable to leave a catheter in the bladder for two or three days after operation. Dilatation should be performed later. Recurrence takes place in a percentage of cases, but I have not seen malignant disease follow.

Carcinoma.

I have encountered only one case of carcinoma of the female urethra, and I do not think that urologists encounter many cases. Gynaecologists probably see far more vulvo-urethral carcinoma. Consequently, I am not in a position to discuss treatment, except in theory.

INCONTINENCE OF URINE.

Incontinence of urine may be due to a congenital defect—for example, an ectopic ureter—and it may even be hysterical. It may occur in tabes and it may be due to vesical diseases, such as severe cystitis, stone, neoplasm *et cetera*. It may be caused by pressure from fibroid tumours, by stricture of the urethra and by the trauma of childbirth and surgery. I think that here we are concerned with stress incontinence and fistula.

Minor degrees of incontinence may be relieved by sphincter exercises and urethral dilatations in a weakened or atonic sphincter. If these measures are unsuccessful and it has been proved that the incontinence is due to lack of sphincter control, plication of the suburethral fascia or repair of the external sphincter through a vaginal approach is indicated. Some surgeons think that the internal sphincter is mainly at fault and have used the suprapubic route to plicate the muscle. I may say here that I am not an authority on the treatment of stress incontinence of urine in women.

Vesico-Vaginal Fistula.

In the treatment of vesico-vaginal fistula I know that good results are obtained by the vaginal approach; but I think that in certain cases the suprapubic operation is preferable. I refer to high lesions, and to cases in which the vagina is small. The essential feature of the operation is to separate the bladder and vaginal walls sufficiently to be able to insert sutures without tension. I think that nothing is to be gained and much is to be lost by the use of non-absorbable sutures such as silver wire. Efficient suture of the bladder muscle is the essence of the operation, and is in my opinion more important than suture of the vaginal wall. An adequate suprapubic tube should be used, and great care must be exercised to see that urinary drainage is free at all times.

The female is heir to the same vesical diseases as the male; but I should like to mention one disease which is much commoner in women than in men, and that is interstitial cystitis. The aetiology is unknown. Some people

think that it is associated with a gynaecological lesion or with previous gynaecological trouble. That has not been my experience. The symptoms are most distressing—great frequency of micturition, diurnal and nocturnal, great urgency, and severe pain when the level of the bladder tolerance is reached. Haematuria may be present. Almost invariably the urine is clear and sterile. Cystoscopic examination, as a rule, reveals a normal bladder, except that, when bladder capacity is reached, a small area of hyperaemia in the mucosa, generally in the vicinity of the air-bubble, commences to bleed. The bladder capacity in severe cases is as low as two ounces. Treatment is by diathermy and hydrostatic dilatation, but recurrence is the rule. Partial cystectomy has been advocated; but I cannot see that this is good treatment, for, since the aetiology is unknown, the lesion is likely to occur in other parts of the viscera. Transplantation of the ureters has been performed in advanced cases; but I feel that this is an extreme measure and should not be advised unless reasonable relief cannot be obtained by regular treatment.

TRIGONITIS.

Trigonitis occurs frequently and is generally associated with diseases of the genito-urinary tract. Diurnal frequency of micturition and terminal pain are the usual symptoms, and the urine is generally clear and sterile. The diagnosis is made by cystoscopy. The trigone is grossly injected and stands out from the rest of the bladder, which is normal. The trigone is, of course, involved in many vesical lesions; but I refer here to the condition in which no other finding is evident on cystoscopic examination. Treatment is directed to the genito-urinary tract, and vesical instillations of a 5% solution of "Argyrol" are efficacious.

TOXIC GOITRE IN THE MIDDLE-AGED AND ELDERLY.¹

By R. WHISHAW,
Hobart.

TOXIC GOITRE in the middle-aged and elderly, although a relatively common disease, often presents difficulties in diagnosis, as we all know. Early treatment is successful, even spectacular; but if the diagnosis is missed or if treatment is unduly delayed, senescent degenerative changes in the cardio-vascular system are apt to be accelerated, and the prognosis becomes much less favourable. This applies with equal truth to the low grade type of toxic goitre which is common in the elderly.

I have reviewed 60 cases occurring in my private practice, with emphasis on symptoms and signs, but also with the hope of finding something of value in the relationship of thyrotoxicosis to hypertension. It is rare for any diagnostic difficulties to arise in the case of young people with Graves's disease; hence this investigation is confined to patients above the age of forty-five years. These sixty cases are unselected, but a number of others had to be discarded because of insufficient recorded data. The average age is fifty-six years, the youngest patient being aged forty-five years and the oldest seventy-six years. Forty of the patients are females and 20 are males—a proportion of 2:1; this is lower than the usual figures quoted.

Symptoms and Signs.

The symptoms and signs are set out in the relative frequency with which they were found (Table I). It will be noted that a different picture is suggested from that seen in younger age groups.

Goitre was present in all cases, but in 13 it was not visible. Five of these goitres were substernal, or could be felt only when the patient swallowed. In 10 cases the goitre was large, in 12 it was moderate in size, and in 25 it was small to very small (that is, one small nodule). All

the goitres were of nodular type, and in a few cases had been present for years.

Loss of weight had occurred in 59 cases. The fact of weight loss was not always known or volunteered by the patient. The loss was sometimes gradual, sometimes rapid. Seventeen patients had lost up to one stone in weight, 20 had lost over one stone and 23 had lost over two stone.

Tremor was present in 58 cases. This was tremor of the hands, which was usually fine but occasionally coarse. The tremor sometimes affected the tongue and lips and was rarely generalized.

Increased pulse pressure was present in 47 cases. The criterion used was a difference between the systolic and diastolic blood pressures of more than 60 millimetres of mercury. Most of these patients had increased systolic pressures and normal or low diastolic pressures, but three patients had a normal systolic pressure and very low diastolic pressure.

Weakness was present in 47 cases. This refers to complaints of muscular fatigue and exhaustion more than "tiredness". It was associated with unimpaired energy, but quick exhaustion.

TABLE I.
The Relative Frequency of the Symptoms and Signs Found in 60 Patients over the Age of 45 Years, Suffering from Toxic Goitre.

Sign or Symptom.	Number of Cases.	Remarks.
Presence of goitre	60	Not visible in 13.
Weight loss	59	
Tremor	58	
Increased pulse pressure	47	Over 60 millimetres of mercury.
Weakness	47	
Increased pulse rate	46	Over 90 per minute.
Hypertension	44	Over 160 millimetres of mercury (systolic).
Undue sense of warmth	43	
Typical personality	37	
Shortness of breath	36	
Eye signs	30	
Glycosuria	14	
Tendency to diarrhoea	12	
Pigmentation	8	

Increased pulse rate was present in 46 cases. The pulse rate was considered to be increased if it was 90 to the minute or more after the patient had spent ten minutes lying down at rest. Basal pulse rates were often 80 per minute or lower. Fourteen patients had a pulse rate under 90 to the minute, ten had a pulse rate between 90 and 100 per minute, six had a pulse rate between 100 and 110 per minute, 23 had a pulse rate between 110 and 120 per minute and seven had a pulse rate over 120 per minute. Many patients complained of palpitations; but I have made no distinction here between palpitation as a symptom and tachycardia as a physical sign.

Hypertension—a systolic blood pressure over 160 millimetres of mercury—was present in 44 cases. In 14 the diastolic pressure was also raised, and this group of patients were considered to be suffering from essential hypertension as a complication.

In 43 cases a sense of undue warmth was present. The patients complained of becoming too hot in bed and of having to throw off the clothes, of always feeling warm even on a cold day, of feeling exhausted on hot days and at their best in winter, and so on.

The typical personality was present in 37 cases. The personality is a pleasant one—optimistic, cheerful, cooperative and alert in mind as in body. The exhaustion is physical and not psychological. These people are not introverts, and are not "nervous" in the common meaning of the term. This type of personality was present in 37 cases and absent in three cases (depressed types); the personality was not recorded in 20 cases.

Breathlessness was present in 36 cases. This symptom was noticeable on normal effort, even in the absence of demonstrable organic heart disease.

Eye signs were observed in 30 cases. Although half the patients had eye signs, these were invariably of slight degree. Six had slight exophthalmos, and many had a

¹ Read at a Tasmanian meeting of the Royal Australasian College of Physicians on August 31, 1946, at Launceston.

slight retraction of the upper lids, or puffiness of the lids, or merely brightness of the eyes.

Glycosuria was found in 14 cases; it was pronounced in six and mild in the others. Three patients had been treated with insulin for long periods.

A tendency to diarrhoea was present in 12 cases. Definite attacks sometimes occurred, but often there was merely frequency of defaecation. Probably the figure would be higher if direct questions had been asked.

Pigmentation was present in eight cases. Although not commonly present, this is a characteristic change. The pigmentation affects chiefly the exposed parts of the skin, and is not unlike sunburn, but is more of a salmon colour. The skin of the dorsum of the hands is in pronounced contrast to that of the palms, which appears to be unduly white. It is sometimes more generalized.

The basal metabolic rate was estimated in only one-third of the cases, but in every one of these it was significantly raised. The readings were not as high as is usual in younger people.

Complications.

Complications were present in 23 cases, as follows: auricular fibrillation, five cases (unusually low); essential hypertension, 14 cases; hypertensive congestive failure, five cases; coronary disease, five cases. One of the patients with coronary disease developed coronary occlusion soon after surgical treatment.

Hypertension and Toxic Goitre.

In this age group the incidence of hypertension would normally tend to be high, but not to the extent of 44 cases out of 60. "Thyreotoxic hypertension", by which is meant an increase in the systolic blood pressure with a normal or low diastolic pressure, is characteristic, and is thought by some authorities to be caused entirely by the toxic process. If this were so, one would expect in uncomplicated cases that the systolic pressure would fall to normal after successful treatment of the thyreotoxicosis. This does not seem to be the case; but it would be futile to draw definite conclusions from my small series.

Only 28 patients could be followed up for a year or more after treatment, and 14 of these cases were complicated by essential hypertension, which slowly progressed, as was to be expected. Of the 14 patients with "thyreotoxic hypertension" who were kept under observation, the majority had an increase in their systolic pressures one year after treatment, and their diastolic pressures tended to rise also. In only two cases were the pressures on a lower level, and these were still above normal. The subsequent increase in blood pressure appears to be independent of the success or otherwise of the treatment for toxic goitre. It would also seem to be independent of the degree of toxicity, or otherwise, of the goitre.

One might tentatively conclude from the foregoing that thyreotoxicosis tends to speed up a latent essential hypertension, just as it does other conditions such as coronary disease. In the cases in which "thyreotoxic hypertension" was present, the low diastolic pressures might be explained by the degree of thyreotoxicosis, which is known to cause generalized vasodilation, whereas when the diastolic blood pressures are raised, the hypertensive arteriolar constrictor mechanism may be in advance of the thyreotoxicosis. This latter sequence of events is obviously in operation when a person suffering from essential hypertension develops toxic goitre after the hypertension is well established.

It is significant that eight out of the ten patients, the results of whose treatment are described as "very good" in Table II, had normal blood pressures. The other two, although very well, still retain their hypertension.

Differential Diagnosis.

It will suffice here to remind you of the common pitfalls in diagnosis. The most common error is failure to recognize the underlying thyreotoxicosis in elderly people who have hypertensive heart disease with early congestive failure, either with normal rhythm or with auricular fibrillation. Hypertensive heart disease is so common that it is easy to miss a small nodule in the thyroid gland, and to ascribe the loss of weight and weakness to the congestive failure. Suspicion should be aroused if treat-

ment with digitalis fails to produce the expected improvement.

Confusion sometimes occurs in the case of psychoneurotic people with simple goitres. The symptoms of tremor, tachycardia, breathlessness and weight loss are common to both disorders; but psychoneurotics have cold hands, their personalities are different, and their basal metabolic rates are not increased.

The "apathetic thyroid" type has often been described, in which the patient is obese and listless, and fails to lose weight. I have encountered a few such cases, but none are included in this series, because it seems doubtful that the condition is a true thyreotoxicosis.

Occasionally a patient with a toxic goitre will show such pronounced glycosuria and hyperglycaemia that he is treated as a diabetic and even receives insulin. Insulin will control the glycosuria, but not the progressive weight loss, *et cetera*. Cure of the goitre results in disappearance of the glycosuria, except in the rare case in which true diabetes mellitus complicates the picture.

TABLE II.
Results of Treatment (60 Cases).

Result.	Number of Cases.
<i>Surgical treatment (30 cases):</i>	
Very good	9
Fairly good	13
Poor	1
Patient died	4
Not known	3
	30
<i>Medical treatment (30 cases):</i>	
Very good	1
Fairly good	17
Poor	1
Patient died	0
Not known	11
	30

¹ Of the "fairly good" group (medical treatment), nine were treated by thiouracil (best and quickest results), two were treated by X rays, and six were treated by rest, sedatives and iodine.

Finally, there is a small group of patients who undergo intensive investigation because of suspected carcinoma. This group is composed of elderly people with gross loss of weight and strength, who have abdominal discomfort and slight diarrhoea and minimal signs of toxic goitre. If the picture of the elderly thyreotoxic is borne in mind, there is no real difficulty.

A point in diagnosis that is often helpful (although more pronounced in younger people) is the character of the heart beats. The heart is overactive, even when the rate is not unduly raised. The heart beats are short, sharp and sudden. This can usually be detected by palpation of the apex, by auscultation, and by observation under the fluorescent screen. The overaction often gives a false impression of cardiac enlargement; but this rarely occurs unless hypertension or other organic heart disease or congestive failure is present.

Systolic murmurs are commonly heard; they do not denote heart disease in uncomplicated cases.

The Results of Treatment.

The results of treatment are shown in Table II. The follow-ups are unfortunately incomplete, and this robs the analysis of any real value. It was a coincidence that equal numbers of patients were treated surgically and medically. It is obvious that these results—surgical *versus* medical treatment—are not comparable; for one thing, the unknown results are more than three times as high in the medically treated group. Moreover, several patients were treated medically because of serious complications and so on.

In this series of sixty patients there were four deaths. Each of these people had been treated surgically, and cardio-vascular organic disease was present in each. It would appear that the latter complication was the cause of the deaths. Brief clinical notes of these four patients are appended.

CASE I.—A female patient, aged fifty-seven years, had hypertensive heart disease with moderately toxic goitre, which was multinodular and partly retrosternal, causing slight stridor. The heart was somewhat enlarged. Her systolic blood pressure was 180 millimetres of mercury and her diastolic pressure 110. She recovered from her operation and made fair progress for some months; then congestive failure developed, and she died one year after operation.

This patient had a long history of toxic goitre before treatment.

CASE II.—A male patient, aged sixty-nine years, had hypertensive heart disease with early congestive failure and low-grade toxic goitre. His systolic blood pressure was 240 millimetres of mercury and his diastolic pressure was 150. Moist sounds were heard at the bases of both lungs; slight oedema and some liver enlargement were present, and the urine contained a cloud of albumin. The patient had four weeks' treatment with good results before operation. He did not regain consciousness after operation.

This patient had a short history of toxic goitre.

CASE III.—A female patient, aged sixty-seven years, was thought to have coronary sclerosis of slight degree. Her heart was a little enlarged. The systolic blood pressure was 150 millimetres of mercury and the diastolic pressure 110. She was subject to attacks of paroxysmal tachycardia (auricular type) and had some arteriosclerosis. Her basal metabolic rate was +40%. She stood the operation well, but developed an attack of paroxysmal tachycardia the next day, and this lasted for forty-eight hours. She then suffered from femoral thrombo-phlebitis, and died a week later, probably from embolism.

This patient had a long history of toxic goitre.

CASE IV.—A male patient, aged sixty-four years, developed moderately toxic goitre soon after an attack of pneumonia. No cardiac enlargement was present, but the aorta was somewhat dilated. His systolic blood pressure was 150 millimetres of mercury and his diastolic pressure was 130. No details of his death are available.

This patient had a short history of toxic goitre.

Conclusions.

1. Thyrotoxicosis is a relatively common disease in the middle-aged and elderly, and it may be present without a visible goitre or eye signs, and tachycardia may be minimal. Nearly all patients lose weight and are a little tremulous and weak. They tend to have high pulse pressures and hypertension, and are usually breathless. Many have a pleasant personality.

2. The importance of early diagnosis and treatment is stressed, because in the low-grade type of the disease, as well as in the more toxic type, senescent degenerative cardio-vascular changes tend to be accelerated by the condition.

3. Surgical treatment gives excellent results, irrespective of age, provided the heart and arteries are healthy.

4. Surgical treatment in cases complicated by essential hypertension or coronary sclerosis is hazardous, nor does it stay the course of the degenerative changes.

5. Successful treatment of toxic goitre, whether surgical or medical, does not appear to prevent the progress of so-called "thyrotoxic hypertension".

THE RENAL GLOMERULAR LESIONS IN ECLAMPTIC TOXÆMIA.

By A. J. CANNY.

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It is the purpose of this communication to examine the claim that in kidneys from subjects of eclamptic toxæmia there occurs a characteristic thickening of the glomerular basement membrane in the absence of any changes in the endothelium and epithelium comparable with those seen in glomerulonephritis.

Opinions regarding the significance of the kidneys in the pathogenesis of the eclamptic toxæmias have varied between two extremes. Formerly the disorders of the kidney were

thought to be largely responsible for the symptoms and signs of these maladies, while at present there is a tendency to regard the renal changes as merely incidental to a widespread disturbance of the tissues resulting from the action of a hypothetical toxin of unknown origin. The earliest exponent of the view that the renal lesions were of primary importance in the production of eclampsia seems to have been Pels Leusden,¹ who based his thesis on the inadequate evidence of the structural changes observed in the kidneys from two subjects to whom he refers as eclamptic. Of these cases, only one in any way has the characteristics of this condition; the other would seem to be an example of renal failure, and the histological characters of the kidneys suggest that this failure was the result of pyelonephritis with massive destruction of the secreting tissue. In the one case of eclampsia examined by this writer well marked glomerular changes were found—a diminished vascularity of the capillary tufts, which filled their capsules to an inordinate degree, but in which there did not occur many leucocytes. He also noted degenerative changes accompanied by the presence of fat in the tubular epithelium. These renal changes Leusden regarded as indicative of glomerulonephritis, which terminated in a uremic state of which the eclamptic seizures were a manifestation. The disturbances in other organs were not considered adequate to account for the eclampsia. The well defined glomerular changes which have been described by Bell² and by Baird and Shaw Dunn³ were first observed by Löhllein.⁴ He noticed that there occurred diffuse damage to the glomerular capillaries, which he considered different from that found in glomerulonephritis. Thickening of the capillary walls was noted and also an absence of any marked proliferation of endothelial cells. This thickening of the walls was regarded as the cause of the diminished vascularity of the tufts. Fatty droplets were seen in some of the endothelial cells. Löhllein admitted that in the more severely affected glomeruli the picture resembled that of glomerulonephritis.

Dorothy Russell⁵ described the renal lesions in eclampsia as inconstant in type, but regarded degenerative processes both in the epithelium of the glomeruli and in that of the tubules as the most conspicuous pathological change. In three out of her sixteen cases she found acute glomerulitis associated with some degree of periglomerular infiltration with leucocytes. This contrasts strikingly with the picture described by Bell,² who by the use of Heidenhain's azan carmine combined with Mallory's stain for connective tissue claimed to be able to differentiate the structural changes responsible for the diminution of the vascularity in the capillary tufts. Little alteration could be found in the epithelial investment of the tufts, and except in three cases in his series of twenty, the capillary endothelium was affected but slightly. The capillary basement membrane, which in the normal glomerulus is merely a fine stratum of connective tissue, was in all cases described by Bell much thickened by the accumulation of fibrillary material. This thickening of the basement membrane, combined in some instances with swelling of the endothelial cells, was held to be responsible for the partial or complete closure of the capillary lumina to which the avascularity of the glomerular tufts is due. Perhaps the thickening of the capillary basement membrane described by Bell² and confirmed by Baird and Shaw Dunn³ may be more apparent than real. It is associated with diminished vascularity of the tuft, and is regarded by these authors as the cause of the lack of blood in the capillary lumina. May it not be that this increased thickness of the basement membrane, if it occurs at all, is—at least in the early stages of the development of the glomerular lesions—the result of partial collapse of the capillaries consequent upon obstruction to the entry of blood by swelling of the endothelium or possibly by a localized or diffuse contraction of their walls? Baird and Shaw Dunn³ noticed that in occasional capillary loops the vessel wall had contracted down on a compressed mass of endothelial cells. In such a loop the basement membrane might well appear thicker than when the capillary was filled with blood. Except for a few such localized condensations of the membrane, the illustrations in their paper show relatively little difference between the normal and affected glomeruli, save in Case II, which they regard as one of frank glomerulonephritis of some weeks' duration, and in Case VII, in which a slight

granularity was noted in the surfaces of the kidneys, which were probably the seat of some mild diffuse fibrosis. That in most glomeruli in a fibrosed area of renal tissue there is considerable thickening of the basement membrane cannot be denied. This can be seen both in the later stages of glomerulonephritis and in even mild grades of ischaemic fibrosis of the kidney. Occurring in kidneys which might well be affected by either of these conditions, it surely cannot be regarded as characteristic of an eclamptic state, even if this latter was the direct cause of death. That such a change in the basement membrane occurs early in eclampsia or in the preeclamptic toxæmias, or that it is at all characteristic of these states, does not seem to be proved by the observations mentioned.

An attempt has therefore been made to assess quantitatively the relation between the extent of the basement membrane as seen in sections of normal kidney, in a kidney from one patient with preeclampsia, and in kidneys from patients suffering from eclampsia and from renal cortical necrosis occurring in the later months of pregnancy.

Method.

In each case a paraffin section $7\cdot0\mu$ in thickness was stained by Mallory's method to demonstrate the basement membrane. Outline drawings were made on square ruled paper of ten consecutive glomeruli selected at random in each kidney and magnified 400 diameters. In these the basement membrane was shaded and the area so defined was determined by a count of the millimetre squares

TABLE I.
Area of Basement Membrane as Percentage of Cross-Sectional Area of Glomerular Tufts.

Case 1185. No Ab- normality.	Case 335. Pre- eclamptic Toxæmia.	Case 562. Eclampsia.	Case 636. Eclampsia.	Case 1628. Eclampsia.	Case 1670. Renal Cortical Necrosis.
16.9	10.4	13.5	10.6	10.6	13.7
15.6	13.9	10.9	15.5	11.9	11.7
24.8	10.4	15.5	13.2	14.7	18.9
20.5	12.9	17.5	15.6	17.0	19.5
15.5	14.8	14.3	11.5	13.3	11.6
10.4	16.6	13.4	13.2	10.2	10.9
18.7	8.1	23.7	16.5	14.6	15.5
16.8	10.7	20.3	14.7	11.3	14.8
11.0	11.7	13.9	14.7	14.3	17.1
19.5	15.0	17.5	12.8	16.2	17.2
Mean : S.E. ± 1.36	12.45 S.E. ± 0.83	16.05 S.E. ± 1.20	13.83 S.E. ± 0.60	13.41 S.E. ± 0.66	15.19 S.E. ± 0.95

half or more than half shaded. The area of the capillary tufts was measured by a planimeter. The percentage area of each glomerular tuft represented by the cut surface of the basement membrane of the tuft has been adopted as the standard of reference in comparing the normal with the diseased kidneys.

The same method has been applied to the photomicrographs of the normal and eclamptic glomeruli reproduced by Baird and Shaw Dunn⁽³⁾ (Figures VII and VIII of their paper).

Tabulation of Results.

In Table I are shown the values as percentages of the area of the sections of glomerular tufts occupied by basement membrane.

In the normal glomerulus shown in Baird and Shaw Dunn's⁽³⁾ illustration, 19.35% of the glomerular tuft is occupied by basement membrane, while in the glomerulus

from the eclamptic subject the corresponding value is 18.57%. It would appear from these figures that little evidence has been presented by these authors for the increased bulk of the membrane in eclampsia.

From the mean values shown in Table I of the present paper, it is seen that in all instances the basement membrane represents a smaller proportion of the cross-section of the average glomerular tuft in the eclamptic than in the normal kidney. To determine whether such deviations in each case are to be considered significant, the data have been analysed to obtain Fisher's⁽¹⁰⁾ *t* value. The value of *t* is given in Table II.

TABLE II.

	Cases 1185 and 335.	Cases 1185 and 562.	Cases 1185 and 636.	Cases 1185 and 1628.	Cases 1185 and 1670.
Value of <i>t</i> . . .	2.836	0.508	2.115	1.842	1.073

In each instance the total number of degrees of freedom is 18.

Table III is taken from Fisher's table of *t* and *p* for an *n* value of 18.

Discussion.

In Case 335 it would appear that the bulk of the basement membrane as seen in cross-section is significantly decreased in relation to the normal, since by random sampling a mean value as low as that obtained would be expected only about once in 100 trials.

Random sampling would be expected to yield a mean value equal to that found in Case 636 about once in 20 trials, and in the other cases investigated such mean values as those obtained differ from the normal mean even less significantly. From these observations, it would seem that there is no justification for the claim made by Bell,⁽²⁾ and by Baird and Shaw Dunn,⁽³⁾ that in eclampsia there occur a thickening and increase in bulk of the glomerular basement membrane. It may then be asked if in eclampsia there occurs any characteristic renal lesion.

Most observers are at one in recognizing the avascularity of the capillary loops and the swelling and proliferation of the endothelial cells. The absence of leucocytic infiltration differentiates this lesion from the similar lesion observed in frank glomerulonephritis. In all probability the two conditions are not dissimilar. Arnott, Keller and Matthew⁽⁷⁾ have found that by graded doses of nephrotoxic serum they can produce glomerular lesions similar to those found either in eclampsia or in glomerulonephritis, and the clinical manifestations of preeclampsia are simulated with a considerable degree of fidelity in an attack of acute diffuse glomerulonephritis. In the eclamptic toxæmias the interference with glomerular function is not of sufficient magnitude to cause haemorrhage from the capillaries or retention of waste products which normally pass from the body in the urine; but in other respects there is a striking similarity between the two conditions. If it is assumed that in both instances the essential pathological change is not confined to the kidneys but is widespread in its incidence, it is possible to explain much of the symptomatology, both of acute nephritis and of the eclamptic and preeclamptic states. It is customary to draw a sharp distinction between the nephritis of pregnancy and the nephritic toxæmias; but in view of the similarity of the renal lesions occurring in these two groups, the not dissimilar symptoms of severe eclamptic toxæmia and of acute nephritis and the subsequent development of chronic glomerulonephritis in a small proportion of eclamptics, it may be that the renal lesions in both conditions are similar

TABLE III.

	<i>P</i> 0.7	<i>P</i> 0.6	<i>P</i> 0.5	<i>P</i> 0.4	<i>P</i> 0.3	<i>P</i> 0.2	<i>P</i> 0.1	<i>P</i> 0.05	<i>P</i> 0.02	<i>P</i> 0.01
Value of <i>t</i> . . .	0.392	0.534	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878

but that the incidence of the essential changes in the various organs determines whether the renal or extrarenal manifestations of the disorder will predominate.

It would seem that glomerular avascularity produced by swelling or even by proliferation of the capillary endothelium is a condition more likely to undergo resolution when the exciting cause is removed than is a narrowing of the capillary bed secondary to thickening of the vessel walls by the accumulation of extracellular fibrillary material. Since in the material studied it has not been possible to confirm such an increase in the bulk of the interstitial substance, there seems to be no reason for regarding the glomerular lesions in eclampsia as dissimilar to those occurring in the early stages of acute glomerulonephritis, except that in the former the intensity of the reaction within the glomeruli is less severe than in the latter. It would seem to be well established that the majority of patients who suffer from acute glomerulonephritis make a recovery which is complete not only clinically but also as determined by the absence of subsequent structural change in the kidneys. So, too, the glomerular lesions in eclampsia seem to be completely reversible if judged by clinical criteria, though the writer is not aware of any observations on the histological appearances in the kidneys of women who have previously recovered from an attack of eclampsia, except in cases in which chronic nephritis has supervened. In the small group studied there appears in each instance to be a moderate degree of ischaemia of the glomerular tufts, which cannot be attributed to an increase in bulk of the basement membrane.

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Reports of Cases.

REPEATED INTRAVENTRICULAR INJECTION OF PENICILLIN IN SEVERE INTRACRANIAL INFECTION: PURULENT MENINGITIS AND VENTRICULITIS SO TREATED, WITH CLINICAL CURE.

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AND

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REPEATED direct introduction of penicillin into the ventricles of the brain is at present an uncommon method of treatment in cases of intracranial infection. Such a procedure, however, can be a life-saving measure, as is shown by the case reported in this paper, and should be seriously considered in cases of severe intracranial infection, especially when not responding satisfactorily to chemotherapy by other routes. The indications, technique and literature relating to this procedure are discussed in another communication; this case was the first of a series to be studied by the writers.

Clinical Record.

Cecil T., aged twenty years, an apprentice draughtsman, was admitted to the wards of the Professorial Medical Unit of the Royal Prince Alfred Hospital on August 17, 1945, with a presumptive diagnosis of cerebral abscess. On August 12 he had been admitted to the Prince Henry Hospital in an irrational state, complaining of headache, stiffness of the neck, and photophobia. His headache had been present on and off for three weeks, but had been much worse in the last week. Two days before his admission to hospital he had begun vomiting, and became delirious. At no time did he lose consciousness or have a convulsive seizure. For eight years he had had chronic osteomyelitis of his right tibia and femur, and on his admission to hospital there was a slight discharge from a sinus near the right hip. There was no mention of earache or aural discharge.

Examination of the patient on his admission to that hospital revealed signs of meningeal irritation, with stiffness of the neck; Kernig's sign was elicited. Left abducent palsy and deafness in the left ear were present. The optic fundi were normal, and no papilloedema was present. There were no other abnormal neurological findings. Lumbar puncture was performed, and the cerebro-spinal fluid was found to contain 1,100 leucocytes per cubic millimetre, and yielded *Staphylococcus aureus* in culture. The pressure was not measured. A blood count showed that the total number of white cells amounted to 9,600 per cubic millimetre, 70% being neutrophile cells, 20% lymphocytes and 1% monocytes.

The patient was given penicillin systemically in doses of 30,000 units every three hours by intramuscular injection, together with a course of sulphadiazine (four grammes, then two grammes in four hours, and every four hours thereafter). On August 14 his mental condition had improved, but the neck stiffness had increased, and he appeared to have a left facial paresis; he had now developed a pronounced left rectus palsy, and complained of diplopia on looking to the left. Twitching in the muscles of his face had also developed, especially on the left side. Lumbar puncture was again performed, and the cerebro-spinal fluid now contained 1,700 leucocytes per cubic millimetre, of which 99% were polymorphonuclear cells. A blood count revealed a neutrophile leucocytosis of 12,900 cells per cubic millimetre, 79% being neutrophile cells. On August 15 his mental state had further improved, but his general condition was worse. His left corneal reflex was absent, but the fundi were still normal.

On August 17 he was transferred to the Royal Prince Alfred Hospital, as it was thought that neurosurgical treatment might be required. The findings on his admission to the Royal Prince Alfred Hospital were as follows.

The patient was conscious on his admission to the hospital, but somewhat irrational, occasionally lapsing into brief periods of muttering delirium. He was covered in a fine sweat, and his temperature was 101.4°F. He had pronounced neck rigidity, and both Kernig's and Brudzinski's signs were elicited. A small discharging sinus was present near the right hip. The pulse was irregular and the rate was 108 per minute; respirations numbered 22 per minute. The optic fundi were normal and the pupillary reactions were unimpaired. Left abducent palsy was present. The left corneal reflex was less brisk than the right. No facial paresis was found. Hearing was impaired in both ears, more on the right side than the left, and the Rinne tests on both sides gave negative results. The response to the Weber test was lateralized to the right side. The other cranial nerves were intact. In the extremities no pareses were observed and muscular power generally was good. Occasional twitching of the limbs and face was present, but this was of varying distribution. All modalities of sensation were unimpaired, as far as could be judged. Coordination appeared to be unimpaired. The reflexes were all normal. There was no exaggeration of the deep reflexes. The plantar reflexes were both flexor in type. Both ear drums were reddened, and had the appearance of acute myringitis and *otitis media*, especially on the right side. No bulging and no perforation of either drum had occurred. The fauces were injected; otherwise the throat was normal. Investigation of a throat swab disclosed no unusual organisms. The pulse

was irregular, multiple extrasystoles being noted. The systolic blood pressure was 120 millimetres of mercury and the diastolic pressure 85. There was no cardiac enlargement, and no murmurs were audible. The respiratory system was normal. At lumbar puncture turbid fluid under a pressure of more than 300 millimetres of water was obtained. It contained 2,100 leucocytes per cubic millimetre, of which 88% were polymorphonuclear cells. Attempted culture yielded no growth of organisms. The total protein content was 100 milligrammes per centum, with an increase in the globulin fraction. The chloride level was 570 milligrammes per centum, and the sugar content 17 milligrammes per centum. The Lange curve was normal.

The patient was considered to be suffering from acute meningitis, possibly resulting from a leaking abscess associated with the chronic osteomyelitis. Penicillin (three millilitres of a solution containing 5,000 units per millilitre diluted with three millilitres of saline solution) was injected intrathecally at the first lumbar puncture, and this procedure, together with spinal drainage and reduction of the pressure to 100 millimetres of water, was repeated every twelve hours for ten days. Penicillin was given systemically in intramuscular doses of 15,000 units every three hours, together with an oral course of sulphadiazine (two grammes *statim*, then one gramme every four hours). On the tenth day the lumbar punctures were reduced to one every twenty-four hours, as the patient's back was becoming sore, four millilitres of penicillin solution (5,000 units per millilitre) diluted in five millilitres of saline solution being injected intrathecally, and the intramuscular injections were suspended.

Blood counts during this period revealed a normal haemoglobin value, but a persistent neutrophile leucocytosis, with a maximum count of 16,500 white cells per cubic millimetre. Examination of the blood for malarial parasites gave negative results, and repeated attempts at blood culture yielded no growth under either aerobic or anaerobic conditions. No tubercle bacilli were found in the cerebro-spinal fluid after repeated examinations, the results of

which are set out in Table I. By August 20 the *otitis media* was subsiding, although it still appeared to be active on the right side. Radiographic examination of the mastoid regions revealed a clear cellular mastoid on the left, but generalized haziness on the right, with early necrosis of a few central cells. By September 6 the otitic inflammation had almost disappeared from both ears.

In spite of the intensive antibacterial therapy, and in contradistinction to the improvement in the aural condition, the patient showed little if any general progress. Mentally, he was more rational, but he still had an intermittent pyrexia, and the findings in the cerebro-spinal fluid were fluctuating, not showing a steady fall in pressure and number of cells (see Table I). By August 29 early papilloedema had developed in the left eye, and daily rectal injections of hypertonic magnesium sulphate solution were commenced. On August 31 early papilloedema was present in both eyes. He was vomiting again, and his temperature was still over 100°F. On September 13 his clinical condition was still unsatisfactory; bilateral papilloedema was now pronounced and vomiting was more severe. His neck was stiff and sore, and his mental condition had deteriorated again. He had pronounced tachycardia, and his temperature was 102.6°F.

In view of the variable status of his clinical condition, with a general trend for the worse, and of the fact that his cerebro-spinal fluid was becoming progressively more yellow—which indicated that the penicillin was concentrating in the lumbar theca and not ascending into the cranium—it was thought that the possibility of cerebral abscess or of cerebellar abscess and a posterior fossa block had to be considered. To exclude this, a pneumoventriculogram was prepared on September 13, and almost purulent fluid was obtained under increased pressure from each ventricle, that from the right being the more turbid. The fluid from the left ventricle contained 122 leucocytes per cubic millimetre (60% polymorphonuclear cells), and had a protein content of 60 milligrammes per centum, with a trace of globulin. The right ventricular fluid contained 318 leucocytes per cubic millimetre and had the same protein content.

TABLE I.
Cerebro-Spinal Fluid Findings.

Date.	Pressure. (Millimetres of Cerebro-Spinal Fluid.)	Appearance of Fluid.	Cell Count.		Total Protein. (Milligrammes per Centum.)	Chloride Content. (Milligrammes per Centum.)	Sugar Content. (Milligrammes per Centum.)	Results of Attempted Culture.
			Total Cells per Cubic Millimetre.	Polymorpho- nuclear Cells per Centum.				
12.8.45	Not recorded.	Turbid.	1,100	90	—	—	—	<i>Staphylococcus aureus</i> .
14.8.45	—	Turbid.	1,700	99	—	—	—	—
18.8.45	300 +	Turbid.	2,100	88	100	570	17	No growth.
20.8.45	300 +	Clearer, but con- tained flakes of pus.	730	85	100	600	17	No growth.
23.8.45	300 +	Yellowish, clearer.	612	97	200	600	25	No growth.
25.8.45	290	Yellow, clearer.	360	90	200	600	25	No growth.
27.8.45	290	Turbid and yellow.	900	71	200	640	25	No growth.
28.8.45	250	Turbid and more yellow.	1,300	86	210	640	30	No growth.
30.8.45	300 +	Clearer, but very yellow.	744	86	200	730	53	No growth.
1.9.45	300 +	Turbid and yellow.	672	94	200	720	60	No growth.
3.9.45	300 +	More turbid, deep yellow.	980	80	200	730	75	No growth.
5.9.45	300 +	Less turbid, yellow.	500	76	180	720	86	No growth.
7.9.45	300 +	Slightly cloudy, yellow.	160	72	100	630	132	No growth.
9.9.45	300 +	Turbid, yellower.	500	77	120	640	126	No growth.
11.9.45	300 +	Clearer, but very yellow.	300	80	200	630	100	No growth.

The difference in cell count between the fluid from the two ventricles suggested some degree of interventricular block, and this was confirmed by introducing both air and methylene blue into the ventricles. The ventricles were outlined by introducing 20 millilitres of air into each lateral ventricle, films 1, 2, 7, and 9 being taken in the manner described elsewhere. These revealed pronounced generalized dilatation of the whole ventricular system, there being no suggestion of abscess in either cerebrum or cerebellum. It was thought that the patient had post-basic meningitis and ventriculitis associated with some degree of intraventricular block.

The air was aspirated from the ventricles, and four millilitres of penicillin solution (containing 5,000 units per millilitre), diluted with four millilitres of warm saline solution, were injected into each ventricle. Thereafter, daily injections of four millilitres of this half-strength penicillin solution were made into each alternate ventricle, after aspiration of the contained fluid. At first the intraventricular fluid was turbid; but four days after operation it began to clear and became yellow, and by the sixth post-operative day clear fluid under normal pressure was being withdrawn, containing (on September 19) 54 leucocytes per cubic millimetre, of which only 16% were polymorphonuclear cells, the remainder being lymphocytes. The neck rigidity disappeared by the seventh day, and the temperature had fallen to 99°F. Nine days after operation the patient felt well and said that he was hungry. His temperature was now normal, he had no headache, vomiting or neck rigidity, the papilloedema had disappeared, and his ventricular fluid was clear yellow and sterile, with a normal cell count. The sutures were removed from the wounds, which had healed well, and the intraventricular injections were suspended on September 21. His progress is well shown on the chart (Figure 1). On

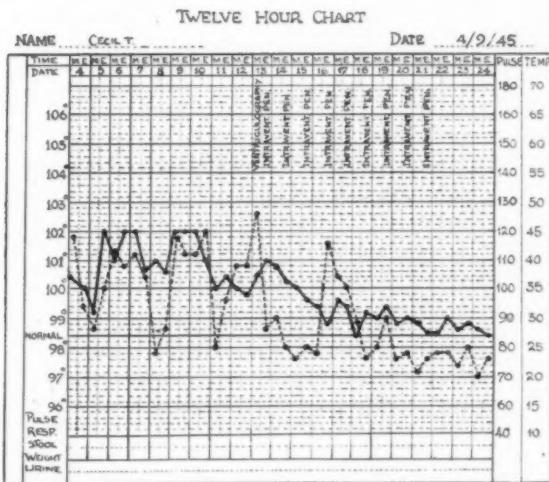


FIGURE 1.

September 27 he was completely rational, eating well, and still apyrexial. Nine days later, twenty-three days after operation, he was allowed out of bed, and on October 13, four weeks after operation, he was discharged from hospital, cured, and gaining in weight. The hip sinus had ceased to discharge and was commencing to heal. He was instructed to have a month's holiday, at the end of which he was examined and found to be in excellent health and still increasing in weight. He had had no deterioration in vision and no headache, and was anxious to return to work. This he was allowed to do after a further two weeks of rest, and at present, twelve months later, he is well and working hard. The sinus near his hip has healed, and only a small scar remains.

Comment.

Here, then, is a case of staphylococcal meningitis associated with bilateral acute *otitis media* and chronic

osteomyelitis which went on to ventriculitis and hydrocephalus, even though the cerebro-spinal fluid had apparently been rendered sterile in the early stages of the disease by the usual methods of treatment. Complete clinical cure resulted following a course of intraventricular injections of penicillin.

Summary.

A case of meningitis and purulent ventriculitis due to *Staphylococcus aureus* treated by repeated intraventricular injections of penicillin after other methods of treatment had failed, is described; the result was clinical cure after nine intraventricular injections of penicillin solution.

Acknowledgement.

Thanks are due to Professor C. G. Lambie, Professor of Medicine in the University of Sydney, and to Dr. R. A. Money, Honorary Neurosurgeon at the Royal Prince Alfred Hospital, who saw the patient in consultation, for permission to report this case.

SEVERE LIVER DAMAGE IN INFECTIVE HEPATITIS, WITH MASSIVE EFFUSIONS AND ÖDEMA: RECOVERY.

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In recent years there has been much interest in liver disease in general and in infective hepatitis in particular. It is now known that in a small percentage of cases of the latter the condition goes on to widespread acute hepatic necrosis and death, in some there occurs subacute necrosis with delayed recovery, and in a few the condition runs a prolonged course of many months with ultimate recovery or death. As a brief survey of recently reported cases failed to reveal one in which effusions and oedema dominated the clinical picture, it was thought worth while to report this case in some detail.

Clinical Record.

The patient, an officer, aged forty-eight years, had spent about twenty years before the war in tropical areas, including the West Indies and Borneo, but had never had malaria or dysentery. He had never taken more than moderate amounts of alcohol, and his only departure from health had been a mild intermittent dyspepsia which troubled him very little.

In June, 1945, he landed with Australian troops on Borneo. He was quite well until the middle of December, 1945, when he suddenly lost his appetite and had an actual distaste for food and a mild, irregular discomfort in the epigastrium. Loss of weight followed, and on January 5, 1946, he first sought medical advice. It was noted that the abdomen was flaccid; neither liver nor spleen was palpable, and there was no diminution of the area of liver dulness. At this time the stools were normal in colour and consistence, and no obvious jaundice was present.

About January 18 he noticed that the stools were pale and putty-coloured and that the urine was dark; within a few days his conjunctiva and skin were yellow. He also had an uncomfortable feeling of fullness and distension in the stomach, and anorexia and nausea persisted. On January 23 it was noted that on inspiration the liver edge was palpable under the costal margin. X-ray examination after a barium meal revealed no lesion in the stomach or duodenum, and at this stage he was evacuated to a base hospital in Australia for further investigation.

On his admission to hospital on February 12 he was jaundiced and looked sallow and wasted. The anorexia and distaste for food persisted and the constant feeling of distension had increased. On examination of the patient the blood pressure was normal, no abnormality was found in the respiratory, cardio-vascular or central nervous systems, the tongue was slightly coated, moderate ascites

and slight epigastric tenderness were present, and neither liver nor spleen was palpable. *Per rectum* no abnormality was found, and neither albumin nor sugar was detected in the urine. The blood serum gave a direct positive reaction to the Van den Bergh test, the fragility of the red cells was within normal limits, and examination after a fractional test meal revealed achlorhydria but no blood or lactic acid. The gall-bladder was not visualized radiographically by the usual Graham's test technique. Microscopic examination of the faeces for cysts or ova gave negative results on six occasions.

On February 20, in a further attempt at diagnosis, *paracentesis abdominis* was performed; this produced 134 ounces of clear ascitic fluid having all the characters of a transudate; the specific gravity was 1010, the protein content was less than one gramme per 100 millilitres, and nothing of note was detected microscopically. The liver and spleen were still not palpable. An X-ray examination of the chest at this stage revealed small pleural effusions, but no other abnormality. On February 27 oedema of the ankles was noticed for the first time. At no stage had the urine contained albumin, nor had any abnormality been observed microscopically. The serum protein content was 6.2 grammes per 100 millilitres, and this was regarded at that time as being within normal limits. During the next fortnight the jaundice became less and the appetite and sense of well-being returned, but fluid steadily accumulated in both pleural cavities, the abdomen and the dependent limbs. "Neptal" (two millilitres given intramuscularly) produced only moderate diuresis.

TABLE I.
Serum Protein Content.

Date,	Total. (Grammes per Centum.)	Albumin. (Grammes per Centum.)	Globulin. (Grammes per Centum.)	Albumin to Globulin Ratio.
27.2.46	6.2	—	—	—
13.3.46	6.2	2.7	3.5	0.76
1.4.46	6.6	—	—	—
8.4.46	7.8	5.0	2.8	1.8
Normal	6.0-8.2	4.6-7.6	1.2-2.3	1.5-3.0

On March 13 the result of the hippuric acid test of liver function was 56% of normal. In the test used, four grammes of benzoic acid are given by mouth, and the total excretion of three grammes in the next four hours is taken as the normal figure. The total serum protein content was the same as previously, but examination of the albumin and globulin fractions, not previously investigated, showed that the albumin was much lower and the globulin higher than normal, and the ratio was completely reversed (Table I). It was calculated that the serum had an osmotic pressure equivalent to 4.9 grammes per 100 millilitres of total protein if the albumin-globulin ratio had remained normal, and that this change could be responsible for the massive effusions. During the next few days a total of 14 pints of fluid of the same character as before was withdrawn, seven pints from the pleural cavities and the

remainder from the abdomen, and "Neptal" (two millilitres given intravenously) produced a further six pints of urine within twenty-four hours. Palpation of the relaxed abdomen again failed to reveal enlargement of liver or spleen, and an X-ray examination of the chest showed that small effusions were still present in both pleural cavities. A red cell count and haemoglobin estimation had given results within normal limits early in the illness; but a full blood count at this stage revealed a mild macrocytic anaemia with low iron saturation (Table II). An iron mixture was given, with "Campolion" (four millilitres every second day) and a special diet rich in protein with vitamin supplements, and daily weighing was instituted.

However, fluid continued to accumulate in the pleural cavities, in the abdomen and subcutaneously, despite intramuscular injections of "Neptal" every fourth day, pitting oedema being present in the legs to the mid-thigh level, and the body weight increasing by about one pound per day (Figure 1). Despite this the patient felt well, his

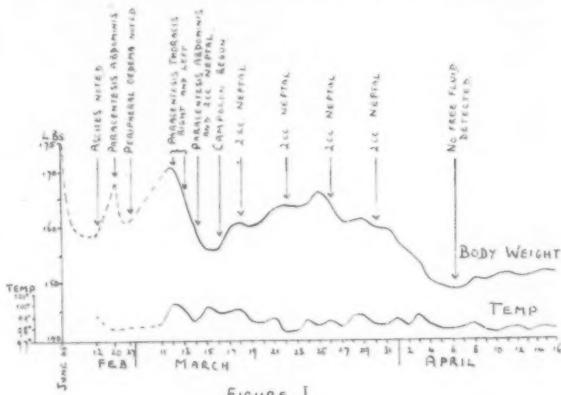


FIGURE 1

appetite was good, the stools and urine were of normal colour, and the jaundice had disappeared. On March 25 pronounced spontaneous diuresis began and continued for the following fortnight, as much as three pounds of body weight being lost in a day. By April 7 there was no peripheral oedema, no free fluid was detected in the abdomen or pleural cavities, and the patient was eating well and feeling well. Examination of the serum proteins revealed values well within normal limits, except for a somewhat raised globulin level (Table I). A few days later the liver was palpated for the first time since the onset of the illness as a firm, slightly irregular edge under the right costal margin on inspiration. On April 15 the result of the hippuric acid test of liver function was 76% of normal, indicating great improvement; but a full blood count revealed that the mild macrocytic anaemia with low iron saturation was still present, and that there had been no response to a month's treatment with liver extract and

TABLE II.
Blood Counts.

Date,	Hæmoglo-bin (Grammes per Centum.)	Erythro-cytes per Cubic Millimetre.	Hæmato-crit Reading. (Per Centum.)	Reticulo-cytes per Centum.	MCV, ¹ (Cubic μ .)	MCHC ² per Centum.	Leuco-cytes per Cubic Milli-metre.	Neutro-phile Cells per Centum.	Eosino-phile Cells per Centum.	Baso-phile Cells per Centum.	Lympho-cytes per Centum.	Monocytes per Centum.
28.1.46	13.6	5,080,000	—	—	—	—	3,300	81	—	—	15	4
14.2.46	12.4	—	—	—	—	—	5,000	79	1	—	15	5
16.3.46	12.0	3,660,000	39	2.2	108	30.6	6,000	74	9	—	15	2
26.3.46	12.7	—	36	1.4	—	34	—	—	—	—	—	—
7.4.46	12.0	3,800,000	40	—	105	30	—	—	—	—	—	—
15.4.46	11.3	3,800,000	42	1.6	110	27	6,200	58	5	—	33	4
16.5.46	10.4	4,200,000	39	—	93	26.6	5,000	57	1	—	33	9

¹ "MCV" = mean corpuscular volume; normal range, 78 to 94 cubic μ . ² "MCHC" = mean corpuscular haemoglobin concentration; normal range, 32% to 38%.

iron. At this stage the patient was given three weeks' leave and was to be reviewed on his return.

On returning from leave the patient looked and felt well. He had put on about five pounds in weight, the liver was just palpable as before, and there were no signs of free fluid. The hippuric acid excretion test gave a result 93% of normal, and the total serum protein content was seven grammes per 100 millilitres. A full blood count (Table II) showed that a mild normocytic anaemia with low iron saturation was present, the macrocytic element having disappeared. It was considered that with full therapeutic dosage of iron the blood condition would slowly return to normal, and the patient was submitted for final boarding.

Comment.

The clinical picture shows the fairly abrupt onset in a previously healthy man of some process damaging the liver and causing disturbance of many of its functions; however, the process had a self-limited course and a strong tendency to recovery. The patient had received no inoculations or injections of any sort within five months of the onset, "Atebrin" seemed the only possible toxic factor, and the diet in the previous six months had been full and varied. A clinical diagnosis of infective hepatitis was therefore made.

Disturbance of serum protein, with a low serum albumin level, increased serum globulin level and reversed albumin-globulin ratio, and the resulting fall in the osmotic pressure of the plasma, was thought to be the main cause of the effusions and oedema. It will be remembered that the relative osmotic pressures exerted by equal quantities of albumin and globulin are approximately 5/2—that is, inversely proportional to their respective molecular weights. H. Tumen and H. L. Bockus, in 1937,¹⁰ found such changes in the serum proteins present in all types of chronic advanced liver disease, in most cases of obstructive jaundice and in some cases of acute hepatocellular damage, often preceding the development of ascites in cirrhosis. They concluded that these changes were due to some liver defect, in synthesis, in mobilization or in regulation of the blood level of the plasma proteins. It is interesting to note in this case (Table I) that the protein values returned to normal with clinical improvement and much loss of retained fluid. Of course the possibility remains that the liver is in some way concerned with the regulation of capillary permeability and that this function was also disturbed. Mechanical obstruction of the portal circulation within the liver may have been a factor in the production of ascites, but the main accumulation of fluid occurred when the obstructive phase of the jaundice had passed, and in any case this could have played no part in the pleural effusions or subcutaneous oedema. No evidence of systemic venous congestion or of renal dysfunction was found at any stage of the illness, nor was there at any time dyspnoea even on moderate exertion, which is rather surprising in view of the effect on the vital capacity of some eight pints of free fluid in the pleural cavities.

Other disturbances of liver function were as follows.

1. Jaundice developed early in the illness; it was at first obstructive in type, and later intermittently obstructive, lasting about two months. The serum gave a direct positive reaction to the Van den Bergh test on two occasions, the quantitative figures being 11 milligrammes per 100 millilitres on January 28 and 8.0 milligrammes per 100 millilitres on February 19.

2. The hippuric acid conjugation test on March 14 gave a result 56% of normal, and a month later, after great clinical improvement, the figure was 76%; 80% is usually regarded as the lower limit of normality.

3. A glucose tolerance test on March 25 showed a normal fasting value and a lag curve with slow rise and slow fall, the blood sugar values in milligrammes per 100 millilitres before and at half-hourly intervals after ingestion of the standard glucose meal being 90, 180, 200, 150, 120. The high, delayed curve probably reflects the impaired ability of the liver to form glycogen.

4. There developed during the course of the illness a mild macrocytic anaemia with low iron saturation (Table

II), which did not respond to intensive treatment with liver extract and iron. Macrocytic anaemias associated with other liver conditions, such as cirrhosis, are notoriously resistant to therapy.

The pathology of infective hepatitis is of some interest. B. Lucké, in 1944,¹² reporting on 125 fatal cases, found at autopsy shrunken livers presenting the picture of acute yellow or red atrophy. Microscopically, in the red areas complete destruction of liver parenchyma was found, the lobules still being outlined by small proliferating bile ducts, and the sinusoids and reticular framework being still present. Dead cells had often been removed. There were many inflammatory cells, but no scarring. In the yellow areas was seen hyperplasia of parenchymal cells forming atypical lobules. Lucké also investigated¹³ subjects who had recovered, either at operation or at autopsy after death from some other cause one to fourteen months after the illness, and found evidence of complete restoration of the liver to normal. No gross abnormalities were found; microscopically the appearances of regeneration were present in all cases, and after some months complete restoration of the liver parenchyma with no scarring had occurred. The condition in this case was thought to be subacute hepatic necrosis with regeneration and healing. For what it is worth, the fact that the liver was palpable early in the illness, later disappeared under the costal margin and again became palpable after recovery, fits in with this conclusion.

Acknowledgements.

The Director-General of Medical Services has kindly given permission to publish this report. My thanks are also due to Lieutenant-Colonel Bruce Hall for advice and criticism.

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Reviews.

INJURIES OF THE KNEE JOINT.

In a publisher's note, "Injuries of the Knee Joint", by I. S. Smillie, has been styled a monograph, and it is this only in so far as it covers only one subject; but the author in his treatment of the subject has attempted to present the features of a textbook, a treatise on operative surgery and a report of a series of various knee joint injuries that he met with during the war years whilst acting as surgeon-in-charge of a Scottish Emergency Medical Service orthopaedic hospital. As would be expected, lesions of the menisci are given pride of place and occupy 87 pages. The author describes his own technique for meniscectomy including the description of a set of chisel-shaped knives of his own design. Following meniscectomy he advocates the suturing of the synovial and the fibrous layers together and not separately, as is the more usual method, but such a procedure has no advantages and would be more likely to lead to the complication of a synovial leak. It is rather surprising to note that in the series of 1,133 meniscectomies reported, 406 were for removal of the lateral meniscus, and also that in 73 patients both menisci were removed from the one knee at one operation. A complicated operation is described, to which seventeen patients were submitted; here a damaged anterior cruciate ligament is replaced by transplantation of part of the medial meniscus, but the lack of any statistical report as to the functional results is regrettable. The fact that one patient wrote to say that he was now "able to venture on to a dance floor for the first time for five years" means

¹ "Injuries of the Knee Joint", by I. S. Smillie, O.B.E., M.B., F.R.C.S. (Edinburgh), F.R.F.P.S.; 1946. Edinburgh: E. and S. Livingstone Limited. 9 $\frac{1}{2}$ " x 6 $\frac{1}{2}$ ", pp. 331, with many illustrations. Price: 35s.

nothing—plenty of men with an artificial lower limb are quite adept on the dance floor. The author's description of fractures around the knee joint is concise and clear, and he describes his own method for treating fractures of the tibial table; but apart from this there is little that is new or original.

The publishers have helped to convey the illusion of completeness by the use of many excellent illustrations, some of which are in colour, and while these enhance the book, they do not make up for its deficiencies. The book would have been of much greater value had the author waited until he was able to give a complete statistical survey of the many series of the different injuries which he treated. This has been well done by other writers in the past, and a survey of the results of the author's treatment with modern techniques would have offered a very instructive comparison.

A BOOK OF ESSAYS.

In a small book on musical matters published two or three years ago Neville Cardus told the story of a Cambridge don who once wrote to Sir Walter Scott drawing attention to historical inaccuracies and anachronisms in the "Waverley" novels. Scott replied, thanking his correspondent, but to his reply appended an additional list of historical inaccuracies which had presumably escaped the don's attention. Having discovered one musical error in Mr. Cardus's book, we stated that we hesitated to point it out to him for fear of being treated as the Cambridge don was treated. With Professor W. A. Osborne's "Essays and Studies" we find no such problem. This may be due, of course, to the author's erudition or to our own lack of that quality; that we blame the former will be readily understood.

These essays and studies, some of which have already been published in different newspapers and journals (two have appeared in THE MEDICAL JOURNAL OF AUSTRALIA) are as stimulating as they are diverse. The author's widely ranging mind takes the reader from Diocletian and his price-fixing edict to divination and from medicine to the music of words. There is something here for every intelligent person. The first essay on scientific errors in literature and art holds many surprises, and if it does nothing else it shows would-be authors how difficult it is to be accurate. The reader may perhaps be excused if he deprecates too deep a knowledge of minutiae, fearful lest by too much insight the work be spoiled for him. An essay on some physiological landmarks in man's evolution was published in 1908, and in a footnote the author states that he finds nothing of importance to add or change. This essay ends with a plea for bodily and mental hygiene. "It is by changes in the organization of man's powers rather than by changes in the powers themselves that progress is to be effected." The essay on Marat presents him as a "true investigator and scientific critic" with a "balanced outlook and restrained diction". Truly "Marat man of science and Marat politician seem to be two distinct personalities . . ." There are essays which will please the student of the English language—one on vowel assonance, another on the magic of monosyllables, and yet another on sigmatism in English. They reveal the author as having a lively musical sense. Mention must be made of "Some Brief Shakespeare Commentaries" and of "On Translating". But these will suffice to show the kind of menu that is offered for the reader's consumption. He may not always agree with the author's point of view; this will not matter. He may find dogmatic statements; they should make him clarify his own ideas. In any case he will appreciate the author's wisdom and workmanship.

Notes on Books, Current Journals and New Appliances.

A YEAR BOOK OF AUSTRALIAN POETRY.

We have reason to be grateful to the publishers of "Australian Poetry, 1945". Australia is sometimes accused of having created no wealth of literature by which she can be known. The truth is that many of her writers are neglected. This 1945 anthology which has been selected by Kenneth Slessor merits the attention of all who would cherish Australian letters.

Ken Barratt writes "To an Unborn Reader, If Any":
If, in some future time,
you, a schoolboy, should read our twentieth century
rhymes,

wondering, no doubt, that of all the freight of years
these alone should survive . . .
wondering, too, what manner of men we were,
how can I tell you, not knowing how it fares with you?

. . . I record that once, thinking such schoolboy thoughts
as yours,
I read the verses of Catullus, a Roman, dead two
thousand years,
and heard that cry of grief no power can heal, "Hail
and Farewell".
I learnt the grave is the brotherhood that binds all men
under the sun;
that we cannot share our happiness, but sorrow makes
all the centuries one;
and each man has his meed of heartbreak before his
day is done.
And so, my unborn friend, I say, as Catullus said that
day to me, "Hail and Farewell!"—and forgive my
importunity.

Peter Finch would "Tell Them":

Tell them in the old worlds
How we can love,
Not the green sward
Underfoot,
But the basalt boulder,
White quartz
River stones,
Deep amber-crevassed clay—
No Roman edifice,
No piles Baroque
Or Byzantine,
But the gutted woolshed
Leaning charred
Against the wind.
Russet-red and grey.

Tell them how we can love
The blue hills' haze,
The eucalyptus scent
In smoke wisps,
And the slow-winged ibis
Dipping downwards
At the sun.

Tell them we love
The wagtails fidgeting,
The limp-tailed lamb
Nuzzling
With scraggy sheep-dog bitch
Padding behind;
Willows drooping
Like sad old men at prayer.
Tell those that have their
Hawthorn hedge and oaks,
Their cottage cluster,
Gothic spires,
Their Grecian columns
And cool cypresses
Where grey old piles
Remain a monument to Roman skill—
Tell them we too can love.

Dorothy Hewitt has recollections of:

An old house lying silent in the summer,
Haunted by children, flowers and orchards,
Days that seemed a dim and golden
Heritage of dream; then all the years
Moved in a liquid sunlight on the grass.
We never knew that time went swiftly, only
The moving shadow on the orchard plough
Was a kind of time piece, and the dandelions,
Ragged and hardy, came out in spring,
The wattlets were like daubs of orange chalk
Against the clouds.

And summer brought the dust-storms dancing down
Like dervishes, the mud cracks in the creek,
The shimmer of heat, dogs with long strips
Of tongue, padding through dust, the red moon
Rising like a recent dream,
With a weird memory to distil
Of strawed summer and ricks in dream.

The Medical Journal of Australia

SATURDAY, OCTOBER 12, 1946.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the article in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

THE STORY OF ANOTHER GREAT ACHIEVEMENT.

In March of this year a good deal of space was devoted in these columns to the review of a special supplement issued by *The Times* (London) as "The Story of a Great Achievement". Here was a "record of British war production", an account of the way in which Britain turned all her energies to the making of weapons and other munitions of war, to the production of food, and to the supply of materials of many different kinds to her allies in the struggle. The story of the wartime achievement was worthy of much more than passing notice, not only by reason of pride, satisfaction and joy in victory, but because it held a promise for the future in national grit and determination to overcome difficulties. The British Isles have had presented to them the story of another great achievement, a story which deals with man rather than with munitions, and which, like the other of a few months ago, gives reason for hope in the years to come.¹ During the war years interim or short summary reports were issued from time to time by the British Ministry of Health and these were discussed in these pages.² All these documents showed that the health of the people of Great Britain was being maintained at a remarkably high level in spite of restrictions in food supplies, austerities of one kind and another, and disturbances the direct result of enemy action. The present document covers a period of six years and, as no series of annual reports can do, mirrors in one comprehensive picture the state of the public health and the work of the Ministry of Health "during the trials, the mercies, the efforts and the final triumphs of six years of the grimdest struggle Britain has endured since the Conquest". Not

that the canvas is everywhere beautiful and complete in detail. Deficiencies and blemishes are not ignored; rather are they used to point a moral or to mark the spot where further work must be done. The whole report is so full of information that it is impossible in a short space to give an adequate idea of all that it contains; it must suffice if attention is drawn to some of the highlights.

Though to most people the reading of figures is a dull business, some mention must be made of the vital statistics set out in the report. The birth rate, which in 1940 was 14.1 per thousand living, rose from then onwards and reached the relatively high figure of 17.7 in 1944. This was the highest figure reached since 1926. Attention is drawn to the low mortality of children from disease. In spite of the loss of some 7,000 children under fifteen years of age as a direct result of enemy action and an increase in accidental deaths brought about through war conditions, the mean annual death rates during 1940-1944 were below the rates for any years prior to 1939 at every year of age from one to five and at five to nine and ten to fourteen. The infant mortality, which in 1939 was 50.6 per thousand live births, reached the low figure of 45.4 in 1944. The reduction in infant mortality recorded in many large towns is quoted. The rate in Liverpool fell between 1938 and 1944 from 74 to 58, in Manchester from 69 to 54, in Newcastle-on-Tyne from 66 to 51, in Sheffield from 50 to 42, in Greater London from 50 to 43, and in Bristol from 42 to 35. There is no complacency about these figures, because the rates for Oxford of 23 in 1939 and 25 in 1944 are quoted as showing the possibilities of still further improvement. Apart from an increase in cerebro-spinal meningitis in the early part of the war, there were no serious epidemics. The prophecies of those who held that evacuation of children in 1939 would cause an increased spread of infectious diseases of childhood were confounded; there was less infectious disease than usual. There was also no serious consequence to the overcrowding of shelters and to the migration to and from threatened areas.

In regard to infectious diseases, cerebro-spinal fever has been mentioned. The number of infections notified in 1935 was 883 with 619 deaths; in 1939 the infections numbered 1,500 and the deaths 517; in 1940 these figures jumped to 12,771 and 2,584; in 1941 they were 11,077 and 2,163; in 1944 they fell to 2,309 and 592. We read that the one comforting feature in the unprecedented epidemicity was the achievement of the lowest fatality rate on record by the use of sulphonamide drugs in treatment. With the exclusion of patients who died within twenty-four hours of admission to hospital, the fatality rate with treatment by chemotherapy plus serum was 13.8%; with chemotherapy alone the rate was 9.2%. The experience in regard to diphtheria is interesting. New low records for both number of infections and deaths from diphtheria were established in each successive year after the immunization campaign was started in 1941. In 1944 diphtheria deaths were less than one-third of the pre-war average and the number of notified infections 30,000 below the pre-war average and 6,000 lower than the previous low record. At the same time during the war more children under the age of fifteen years were killed by diphtheria, a preventable disease, than were killed by enemy bombs. No one will quarrel with the statement that strong con-

¹ "On the State of the Public Health during Six Years of War"; Report of the Chief Medical Officer of the Ministry of Health, 1939-45; 1946. London: His Majesty's Stationery Office. 92" x 6". pp. 284. Price: 5s. net.

² THE MEDICAL JOURNAL OF AUSTRALIA, July 11, 1942, January 29, 1944, and March 3, 1945.

tinuous effort is needed to raise the general percentage of immunized children to at least 75, especially in the pre-school groups, and to maintain by reinoculation the resistance of children who have received primary immunization. Measles and whooping-cough were made notifiable as a wartime measure. Measles became severely epidemic in 1940 and 1941; a remission occurred in 1942 and was followed by a recrudescence. The mortality rate during this period was from 0.21% to 0.28%. This rate, it is pointed out, is unusually low. A considerable increase in the notifications of cases of dysentery occurred, but little increase in the mortality from the condition was recorded. The increase in the number of infections is held to be due to the wide distribution of *Bacillus dysenteriae* Sonne. It was thought that many cases were unnoticed, first of all because of pressure of work on a depleted medical service and also because many infections were so mild that they were not brought to the notice of the medical attendant. An increase in food poisoning of a mild type occurred. It is thought that all increases in intestinal disease were probably related in some measure to the difficulties of personal and culinary hygiene occasioned by wartime shortages of staff, towels, soap and other washing facilities. One cause of mortality is stated not to have received the attention it merited; it is the occurrence of accidents in the home. A special study of this subject, it is thought, would yield information useful to house planners, architects and technicians, and suitable for use in the education of housewives.

The section dealing with tuberculosis contains interesting facts. A comparison is made between tuberculosis in relation to the war of 1914-1918 and that of 1939-1945. In both instances a rise in the number of cases of all forms of tuberculosis, especially the respiratory form, occurred. In the first World War a fresh rise occurred in 1917, and this was considerably increased in 1918. In the second World War, during the years 1942 and 1943 a smart fall to the pre-war level occurred. Another curious contrast is mentioned. During the first World War it was among the young women that the greatest increase in the respiratory form of the disease occurred. This was thought to be due to nutritional factors, to the greater industrial employment of women, to exposure and fatigue, and also to the outbreak of influenza in 1918. All these factors, except the last mentioned, were increased during the second World War, but in this conflict it was not the young women who were predominantly affected, but males in the older age groups. This problem was discussed in a special report issued by the Medical Research Council in 1942. In the present document we read that since the initiation of mass miniature radiography and the scheme of allowances, ascertainment of the existence of the disease has been accelerated and evidence is forthcoming that patients are coming for treatment at an earlier stage of their illness than in the past. Britain, like other countries, has had her worries over hospital beds for tuberculosis patients. In March, 1945, there were 29,327 beds provided for the tuberculous; of these, 2,111 were empty but temporarily unavailable; 975 beds were empty and ready for use, and there was a waiting list of 4,628 patients. "It is clear that, given a sufficiency of staff, one half the waiting list could have been absorbed."

An increase in the incidence of venereal disease took place during the war years. This, together with the

methods by which infectivity is controlled at the present time, has been the subject of comment in these pages. Mention has also been made of Defence Regulation 33B, the measure that was introduced to deal with spreaders of infection who refused to undergo examination and treatment.

One of the most important wartime developments which will be carried into the post-war arrangements of medical practice is the establishment of laboratory services. Before the war these services were largely confined to a few main centres. The Medical Research Council organized and managed on behalf of the Ministry of Health the Emergency Public Health Laboratory Service. This service "has forged strong links between medical officers of health, general practitioners and bacteriologists". The service "has become an integral part of the public health service of the country". If the laboratory is to play its full part in the further development of curative and preventive medicine, it is held that there should be close coordination of its three main branches—teaching and research, clinical pathology, and public health bacteriology and epidemiology. It is intended that the blood transfusion service organized during the war shall be continued in peacetime as an activity of the Ministry of Health. The Blood Transfusion Service has a proud record—there was never any failure of the service to provide what was asked of it and there were no large-scale calamities. The number of complaints was negligible; the service was enthusiastically supported throughout the war period and was in fact above criticism in the public mind.

An important section of the report is devoted to food and nutrition. Nutrition is indeed "the very essence and basis of national health". There is no doubt that the satisfactory health of the British people throughout the six years of war is in large measure due to the way in which the food situation was handled. In this regard Australians cannot lose sight of the fact that the people of Britain are still on very short rations and need all the help that Australia and other parts of the Empire can give them.

In this short account of the story told in the Chief Medical Officer's intensely interesting report many important subjects must necessarily be passed by. One subject that could well have a whole discussion devoted to it is the way in which the problems of medical manpower were met. No praise is too high for the men and women who served in the Emergency Medical Service. It must suffice to point out that by the end of 1942, 4,517 general practitioners had been recruited to the forces. Of the doctors remaining in civil life, the majority were over fifty years of age and at the end of 1942 no less than 8.3% were over seventy. "These ageing men, their sleep, particularly in London and other targets of enemy attacks, more than usually interrupted by attendance at 'incidents' and, in many cases, by the bombing of their own houses or surgeries, carried on under a steadily increasing strain, as more and more of their colleagues and neighbours were called up, and left their practices to be carried on." It was thought that in no case should a practitioner be called upon to have the medical care of more than 3,000 people, but in some areas the proportion rose to the fantastic level of one practitioner to 4,300 and even 4,500 people.

There is one serious gap in this report and that is the omission of any reference to mental health. This is because mental health has hitherto been looked on as the province of the Board of Control and only indirectly the concern of the Ministry of Health. The morale of the British people, which is really a question of mental health, has right through the war period been the admiration of the people of Australia. The London Letters sent from time to time by this journal's English representative have thrown light on this matter.

The Chief Medical Officer, Sir Wilson Jameson, states at the outset of the report that the present state of the health of Britain is a miracle. Perhaps it is, but one of the factors in bringing the miracle to pass has been the activity of the medical profession, and particularly of its leaders, both within the departmental ranks and outside them. There is much in the manifestations of this "miracle" that can be carried forward to the future. General Smuts has said: "Something has been born in the hearts of men and women which will carry us on into a better world in the years to come." This will be only if we all will that it shall happen.

Current Comment.

SOME NURSING MEASURES IN THE TREATMENT OF PERITONITIS.

If any example were needed to illustrate the need for humility of spirit in the surgeon's approach to his calling, it could be found in the lack of unanimity as to the principles which should be adopted in treating the patient who has undergone operation for peritonitis. The divergence is still very wide, though such operations must have been performed millions of times during the last half-century. In a provocative paper on the subject, which appeared recently in this journal, V. J. Kinsella expressed the opinion that modern doctrine is confused because the physiological conscience of the surgeon is unable to free itself from the shackles of a tradition which is passed on from generation to generation and is rooted in primitive folk-lore and superstition.¹ Thus a desire to give alimentary rest on the one hand and on the other hand a sense of worry if the patient's bowels do not act (founded, Kinsella suggests, on the primitive ideas of disease being due to demoniac possession and of purgation being the equivalent of exorcism) leads to a conflict in the surgeon's mind, which is at the present day usually resolved by a purgation of the patient somewhat less drastic than that practised in former times. It is no doubt most difficult to lay down principles of general application and easy to over-simplify the problem, and Kinsella's paper may perhaps be criticized on this score, particularly because he lays down a dietetic regimen for the post-operative period, with little provision for the great differences in the appetites and requirements of different patients.

One part of the treatment of peritonitis which surgeons have almost universally adopted is the nursing of the patient in the position advised and described by G. R. Fowler.² A number of modifications of the position recommended by various surgeons have since been widely adopted, so that Fowler, were he alive, would scarcely recognize some of the nursing devices which are known by his name—one such is often described by the monstrous name "the semi-Fowler position". The use of Fowler's position has become established in orthodoxy on a scientific enough basis and certainly without any superstitious

prompting or inhibition in the minds of surgeons. The assumption has been that it promotes the gravitation of the products of inflammation to the pelvic peritoneum and their localization there, so that "septic absorption", which mainly takes place by way of the subperitoneal lymph vessels of the diaphragm, is diminished and opportunity created for subsequent drainage, if necessary. Fowler's position has also been widely employed after thoracic surgery and in the treatment of cardiac and pulmonary disease. During the past ten years or so there has been a tendency to abandon the use of Fowler's position in favour of frequent changes of posture by the patient. J. E. H. Roberts has summarized the reasons for preferring the latter after thoracic surgery.³ Recently J. E. Spalding has made a reasoned attack on the use of Fowler's position in the treatment of peritonitis.⁴

Spalding points out that it has been known for many years that there is normally a steady flow of peritoneal fluid against gravity towards and into the suprahepatic subphrenic spaces, so that, for instance, carmine particles injected into the peritoneal cavity can very soon be recovered from the mediastinal lymphatics. The upward flow is determined by the difference between the pressure in the general peritoneal cavity and that in the subphrenic spaces, which varies with the intrapleural pressure. A *vis a fronte* is thus applied to the thin film of fluid from its upper end and this together with the forces of capillary attraction exceeds the force of gravity. Large effusions may be influenced by gravity to a greater extent, but a proportion of their content is bound to enter the subphrenic space whatever the position of the patient. When air is allowed to collect under the diaphragm, as it does after laparotomy or after perforation of a hollow viscus when the patient is propped up, there is a tendency, owing to pressure differences occasioned by the pneumoperitoneum, for fluid to be drawn up in bulk and for the local defences to be overwhelmed and for subphrenic abscess to result. Further, when air is allowed to collect under the diaphragm, it breaks the fluid film which transmits part of the weight of the upper abdominal viscera evenly to the lower surface of the diaphragm and causes this weight to be transmitted through the ligaments of the liver: this appears to cause pain. Moreover, for this and other reasons, the respiratory excursion of the diaphragm is diminished by pneumoperitoneum and this may play a part in the production of post-operative pulmonary complications. Again, the maintenance of Fowler's position by a pillow behind the knees appears to predispose to venous thrombosis in the legs, whereas allowing the legs to move about freely (which is impossible in Fowler's position) tends to reduce the incidence of thrombosis. To these arguments marshalled by Spalding may be added the evidence adduced by C. K. Drinker showing that circulatory stasis and patchy deflation in the most dependent parts of the lungs occurs when the chest remains in one position for long periods, especially if the breathing is shallow.⁵ Spalding's conclusion is that there is ample evidence to justify the abandonment of the use of Fowler's position, that there is no doubt that the best position for a sick person is the most comfortable, and that, since no position remains comfortable for long he will be glad to move from side to side and onto his back if he is encouraged to do so. It is safe for him to sit up if he wishes to do so when any pneumoperitoneum has been absorbed—that is to say, a day or so after laparotomy.

Spalding's paper is marred only by an invidious juxtaposition, which would have been better omitted, of what Wangenstein said in 1942 and what Hamilton Bailey said allegedly in 1943. But it is a scientific appraisal of an important subject that has been over-simplified in the past and shows how easily the healing power of Nature may be hindered instead of assisted by artificial measures based upon principles imperfectly appreciated. It seems that we may guess that something is amiss when our treatment is incompatible with the patient's rest and comfort.

¹ The British Encyclopaedia of Medical Practice, Volume VIII, 1938, page 237.

² The Lancet, May 4, 1946.

³ "Pulmonary Edema and Inflammation", 1945, page 58.

Abstracts from Medical Literature.

PAEDIATRICS.

Penicillin in the Treatment of Neonatal Sepsis.

F. M. B. ALLEN, EDGAR MORISON AND W. R. RUTHERFORD (*Archives of Disease in Childhood*, March, 1946) have carried out a research to determine the place of penicillin in the treatment of neonatal sepsis. It is well known that in the neonatal period only a minority of affected infants present symptoms which enable an exact diagnosis to be made either of the site, or sites, of infection or of the nature of the infecting agent. Many of these patients present a distinctive clinical picture, however, and have an illness of sudden onset with some or all of the following symptoms: fretfulness or apathy, refusal to feed, diarrhoea, vomiting, and an abnormal fall of the post-natal birth weight, or a downward deflection of the weight curve if this has begun to climb. The temperature may be raised at some period of the illness, but absence of fever will not exclude the presence of infection. The respiration rate may be increased and uterus may seem more pronounced than would be expected in physiological jaundice of the newborn. The condition sometimes assumes epidemic proportions in maternity hospitals. When diarrhoea predominates there is then a tendency to label it epidemic diarrhoea of the newborn and to regard it, sometimes with little further investigation, as a primary gastro-enteritis of unknown aetiology. Careful and detailed autopsies in cases of neonatal sepsis, especially when dehydration has been in some measure controlled, will very rarely show any lesions in the intestinal tract, but will often reveal evidence of infection elsewhere, especially in the respiratory tract. Histological examination will frequently reveal acute inflammatory reaction in the nose, larynx and pharynx, lungs, and nearly always in the middle ears. In some cases only thrombi in intracranial or renal veins may be found, and it is then impossible either to implicate or to exclude a low-grade and disseminated bacterial infection. It is emphasized that if dehydration is controlled, bacterial infection, especially of the respiratory tract, whether it is primary or secondary, plays an important role and often determines the fatal issue. A diagnosis of neonatal sepsis was made in seventy-one cases and every alternative patient was treated with both penicillin and sulphadiazine. A study of the sixty-one cases which were suitable for analysis failed to show that penicillin increased the recovery rate or influenced either the duration of the illness or the severity of decline in body weight. In this connexion the importance of bacterial infection, especially of the respiratory tract by a potentially variable flora, is discussed. The authors emphasize that there is no panacea for neonatal sepsis. While penicillin may be highly beneficial in a few cases in which a penicillin-sensitive organism can be solely incriminated, its widespread exhibition can only detract attention from such symptomatic treatment as the control of dehydration

and the prevention of aspiration pneumonia by good nursing. Very extensive researches and perhaps radical changes in our conceptions of the interaction of infecting agents with one another and with epithelial surfaces must precede advances in the treatment of neonatal sepsis. Since chemotherapy cannot control or cure the more widespread and more infectious forms of neonatal sepsis, the proper policy is to emphasize the necessity for its prevention by continued improvement in the provision of adequate accommodation, facilities for segregation and rigid nursing technique.

The Sulphonamides in the Treatment of Infections in Infancy.

M. HENDERSON AND E. C. R. COURIER (*Archives of Disease in Childhood*, March, 1946) have given a description of 415 infants suffering from various infections, the majority of whom were treated with drugs of the sulphonamide group. On the whole these drugs are well tolerated by infants. Sulphapyridine tends to cause cyanosis and vomiting. Cyanosis of mild degree but no vomiting may also occur with sulphamezathine. Oedema occasionally occurs with sulphaguanidine and sulphasuxidine, and the latter drug may also cause an increased tendency to haemorrhage. In neonatal gastro-enteritis the total death rate may be reduced by the use of sulphaguanidine or sulphasuxidine, but the treatment must be started early, since when the patient is severely ill these drugs appear to exert little effect. Sulphaguanidine and sulphasuxidine probably have little effect in gastro-enteritis of older infants. In pneumonia and bronchopneumonia sulphamezathine is the drug of choice. Sulphamezathine, sulphathiazole, sulphadiazine and sulphapyridine do not produce striking results in upper respiratory infection and bronchitis. They exert little effect in preventing the development of *otitis media*. When *otitis media* occurs alone, as it often does, the sulphonamides (particularly sulphathiazole and sulphadiazine) constitute a therapeutic advance, but not as great an advance as could be wished. It is felt that once mastoiditis has supervened, sulphonamides will not influence the progress of the disease. The series of pyelitis cases is too small to justify conclusions, but an equally good result was obtained with sodium citrate mixture alone as with any of the sulphonamides used. Cellulitis, unaccompanied by pus formation, can be successfully treated with sulphadiazine and sulphathiazole. The local treatment of pemphigus with sulphonamide cream is very satisfactory.

Hypoprothrombinæmia in Infants with Diarrhoea.

S. RAPAPORT AND K. DODD (*American Journal of Diseases of Children*, June, 1946) report the occurrence of hypoprothrombinæmia, usually accompanied by some bleeding, in seven infants suffering from chronic diarrhoea. The occurrence of hypoprothrombinæmia, with consequent haemorrhagic diathesis, in the absence of jaundice, has been noted in patients suffering from non-tropical sprue, from ulcerative colitis and from a variety of other intestinal disorders associated with diminished intestinal absorption. A moderately decreased plasma prothrombin content

has also been described in cachectic patients. On the basis of observation of prolonged coagulation times in patients with celiac disease, it was surmised that their tendency for bleeding may be accounted for by deficiency of vitamin K. The incidence of hypoprothrombinæmia in infancy is generally thought to be limited to the neonatal period, in which it is recognized as the cause of haemorrhagic disease of the newborn. In debilitated infants with chronic diarrhoea haemorrhagic manifestations are not infrequent; sometimes when the cutaneous signs are predominant, they are classified as *purpura cachectica*. The only report available concerning the plasma prothrombin in this condition is that of a marantic twelve-weeks-old infant with chronic diarrhoea and bilateral *otitis media*, who had blood in the stools as the presenting haemorrhagic manifestation. Hypoprothrombinæmia was present in this case and was amenable to parenteral treatment with vitamin K. Six of the infants described by the authors had no bleeding after the administration of vitamin K. In five cases the prothrombin time promptly fell to a normal level or lower. The possible causes of vitamin K deficiency in these infants have been considered. They are: insufficient intake, failure of synthesis owing to a shift in the bacterial flora caused by the disease itself or by the action of sulphonamide compounds or by both, and, last, decreased absorption from the intestinal tract. It seems probable that in many instances of prolonged malnutrition in infancy and childhood hypoprothrombinæmia may be the underlying cause of a haemorrhagic diathesis. The administration of vitamin K to such patients as a prophylactic measure would seem advisable.

Relation of Ascorbic Acid to Effectiveness of Iron Therapy in Children.

HAZEL VERN SCHULTEZ (*American Journal of Diseases of Children*, June, 1946) states that numerous studies are published and in progress on the interaction of vitamins and regeneration of haemoglobin, and among these are some which involve the use of ascorbic acid. No definite conclusions have been reached, however, as to the true relationship of ascorbic acid to the metabolism of iron or its effectiveness in regeneration of haemoglobin. The anaemia which accompanies scurvy indicates a positive relationship, but whether this condition directly results from the ascorbic acid deficiency is questionable. Several investigators have reported studies in which anaemia was not always found in scurvy, or in which it might be ascribed to a generally deficient diet in which other substances than ascorbic acid were lacking or in which it might be due to the haemorrhage of scurvy. The author has examined a large group of children living under identical conditions as to haemoglobin and erythrocyte content of the blood, and 36 were selected for iron and ascorbic acid therapy. The average values were 10.7 grammes of haemoglobin per hundred millilitres of blood, 4,100,000 erythrocytes per cubic millimetre and 32% of packed cells. There was no indication of scurvy or other pathological condition in any of the subjects. Two matched groups were formed,

and to all members of both groups one-sixteenth of a grain (four milligrams) of copper sulphate and one and a half grains (0.1 grammes) of iron as soluble ferric pyrophosphate were given daily. To the members of one of the groups 100 milligrammes of ascorbic acid was given and to the others a lactose placebo. The treatment was continued for ten weeks, during which the food consumed by the children was recorded and kept uniform. The diet provided 33 milligrammes of ascorbic acid and 11 milligrammes of iron per child per day. Examinations of the blood were made every other week during this period. The haemoglobin level was equally increased in the two groups to 14 grammes per hundred millilitres; haematocrit values and red cell counts were only slightly affected. No significant difference in any of these measurements emerged from the comparison. No significant increase in erythrocyte production accompanied the increase in haemoglobin.

Sulphanilamide Therapy and Glomerulonephritis in Children.

M. RAPOPORT, M. I. RUBIN AND A. D. WALTZ (*The American Journal of the Medical Sciences*, March, 1946) discuss the influence of sulphanilamide therapy upon the course of acute glomerulonephritis in children. A study was made of a group of 33 children with acute glomerulonephritis treated with sulphanilamide, and the results were compared with those obtained with a group of forty children suffering from the same disease who were not given the drug. Both groups were comparable in age, sex, duration of illness prior to admission to hospital, severity of renal disturbance in the incidence of accompanying cardio-vascular derangements, and in the predominant infecting organism (β haemolytic streptococcus). All the children in both groups recovered completely from their renal disease and there was no significant difference in the duration of the renal inflammatory process as estimated by the routine urine examination, Addis urinary sediment count and red blood cell sedimentation rate. There were no statistically significant differences between the duration of the disturbed renal or cardio-vascular functions in the two groups. Sulphanilamide had no demonstrable deleterious effect on the renal function and did not cause an unusual incidence of toxic phenomena in patients with acute glomerulonephritis. Sulphanilamide therapy appeared to be without influence on the course and duration of acute glomerulonephritis in children. However, the authors state that this finding does not deny the value of sulphanilamide (and other sulphonamides) in the treatment of infection in the patient with nephritis.

ORTHOPÆDIC SURGERY.

Traction Paralysis.

HENRY MILCH (*The Journal of Bone and Joint Surgery*, October, 1945) reports two cases to illustrate how susceptible the peroneal nerve at the neck of the fibula is to traction strain. He states that as the peroneal nerve winds around the neck of the fibula,

makes an almost right-angled turn around the tibial head of the *peroneus longus* muscle. Even more important than this is its relationship to the *fascia lata* which lies superficial to the *peroneus longus* muscle and takes a firm attachment to the head of the fibula at a point just above and slightly more lateral to the origin of the long head of the *peroneus longus*. Both the muscle and the fascial attachment act as a fulcrum around which the nerve changes its course. Since the nerve is covered by the deep fascia, this knee-like change in direction acts as a fixed point against which traction may be exerted. Excessive traction on a peroneal nerve, with resulting paralysis, may be removed by the operation of anterior transposition of the nerve, after the tibial head of the *peroneus longus* has been detached. In those cases of fracture around the knee in which there is an increase in the tibiofibular distance, and in which simple transposition is found to be insufficient to relieve tension on the nerve, resection of the head of the fibula will relieve tension.

Spontaneous Bilateral Fracture of the Neck of the Femur following Irradiation.

CLARENCE H. HAYMAN (*The Journal of Bone and Joint Surgery*, October, 1945) reviews the numerous cases of fracture of the neck of the femur following irradiation which have been reported in the literature. In these cases pain usually antedated the diagnosis of fracture by some months with an average of seven months elapsing from the onset of symptoms until the fracture was demonstrated. The author considers that it is of especial interest to note that in the largest series of cases (fourteen patients) there had not been direct irradiation over the femoral neck, nor had lateral portals been used over the trochanters. In the cases reviewed bony union following irradiation fractures of the neck of the femur has been rare. The author reports details of a patient treated by himself. This patient had received radium and deep X-ray treatments for a carcinoma of the cervix over a period of three months. Fourteen months after the completion of irradiation the patient first complained of pain in the right hip. One month later an X-ray examination showed no abnormality in the hip region. Pain became worse, and three months after the onset of symptoms a further X-ray examination revealed a fracture of the neck of the right femur with a calcified band of callus and moderate rotation of the femoral head. A Smith-Petersen nail was then inserted without manipulation of the hip. Following this operation the patient was promptly relieved of pain and muscle spasm. Three months later, that is, twenty-one months after the completion of irradiation, the patient noticed the gradual onset of pain at the left hip. Six weeks after the onset of pain X-ray examination revealed a fracture through the neck of the left femur. The insertion of a Smith-Petersen pin again gave prompt relief from pain and muscle spasm. The author considers that these fractures present a similarity to "march" or "insufficiency" fractures in that fracture is demonstrable only in the later stages when the condition is revealed by a band of callus or absorption of bone along the line of fracture.

In the case presented by the author, the author states that it appears that bony union is progressing normally, but that it is too early to predict the end result.

Spastic Flat Foot.

PAUL W. LAPIDUS (*The Journal of Bone and Joint Surgery*, January, 1946) reviews the anatomy and mechanics of the subtalar joint and shows that the interosseous talo-calcaneal ligament is relaxed in pronation and becomes tense in supination of the foot. The cause of so-called spastic flat foot is a lesion of the interosseous talo-calcaneal ligament or of the subtalar joint with reflex spasm of the pronators to produce relaxation of the ligament. Patients with this lesion are treated by rest in bed, by physiotherapy and by non-weight-bearing exercises; later well-fitting metal plates and shoes are used. In very obstinate cases in which persistent disability is present triple arthrodesis is performed. The author states that as a rule conservative measures, patiently adhered to, will bring enough relief, and in the long run are better than the operation. He holds that any operations designed to eliminate the action of the pronator muscles (tenotomy or interruption of the peroneal nerve) are unsound, futile and often harmful.

Pyogenic Osteomyelitis of the Spine.

JOSE PUIG GURI (*The Journal of Bone and Joint Surgery*, January, 1946) considers that the diagnostic problems presented by forty-eight patients suffering from pyogenic osteomyelitis of the spine observed in ten years may be divided into two main groups: first, those concerned with location of the lesion, and secondly, those affecting determination of its nature. The clinical syndromes consist of the hip joint syndrome, the abdominal syndrome, the meningeal syndrome and the back pain syndrome. The last-mentioned syndrome may be further subdivided into acute or subacute osteomyelitis and osteomyelitis of insidious onset. When the infective process is localized exclusively in the neural arches the condition is practically always of pyogenic origin. In regard to the diagnosis of spondylitis due to Malta fever, typhoid fever, mumps or any other specific vertebral infection, it is necessary to rely mainly on the clinical history, the agglutination tests, the skin tests and the blood findings in each case, as there are no reliably characteristic X-ray findings for the different types of infective spondylitis. The author found that after all the possibilities had been exhausted the most frequent diagnostic problem was to differentiate between pyogenic and tuberculous spondylitis. It is pointed out that in some cases only through a careful study of the skiagrams taken over a considerable period of time will the differences in the progress of the two lesions make possible a correct diagnosis. The author found that in both the localized and diffuse forms of pyogenic spondylitis, reactive new bone formation could be recognized as early as one to three months after the onset of symptoms. He states that cases of so-called tuberculous spondylitis characterized in the skiagram by marked sclerosis and bone formation should be regarded with suspicion, as they may prove to be cases of chronic staphylococcus osteomyelitis.

Bibliography of Scientific and Industrial Reports.

THE RESULTS OF WAR-TIME RESEARCH.

During the war a great deal of research was carried out under the auspices of the Allied Governments. It has been decided to release for general use a large proportion of the results of this research, together with information taken from former enemy countries as a form of reparations. With this end in view, the United States Department of Commerce, through its Publication Board, is making a weekly issue of abstracts of reports in the form of a "Bibliography of Scientific and Industrial Reports". This bibliography is now being received in Australia, and relevant extracts are reproduced hereunder.

Copies of the original reports may be obtained in two ways: (a) Microfilm or photostat copies may be purchased from the United States through the Council for Scientific and Industrial Research Information Service. Those desiring to avail themselves of this service should send the Australian equivalent of the net quoted United States price to the Council for Scientific and Industrial Research Information Service, 425, St. Kilda Road, Melbourne, S.C.2, and quote the PB number, author's name, and the subject of the abstract. All other charges will be borne by the Council for Scientific and Industrial Research. (b) Those marked with an asterisk may be obtained by approved applicants without cost on making application to the Secondary Industries Division of the Ministry of Post-War Reconstruction, Wentworth House, 203, Collins Street, Melbourne, C.1. Copies of these are available for reference in public libraries.

Further information on subjects covered in the reports and kindred subjects may be obtained by approaching the Council for Scientific and Industrial Research Information Service, the Secondary Industries Division of the Ministry of Post-War Reconstruction, or the Munitions Supply Laboratories (Technical Information Section), Maribyrnong, Victoria.

GALVIN, JAMES D., JUNIOR. Report on Kepec Company methods, application and auxiliary materials produced to facilitate making of orthopaedic appliances. Off. Pub. Bd., Report, PB 2450. 1945. 40 pp. Price: Microfilm, 50c.; Photostat, \$3.00.

This report describes Panplast, a special impregnated felt manufactured by the Kepec Chemische Fabrik at Sieburg, which can be used in the making of all orthopaedic appliances formerly made of full leather. It is not to be regarded as a substitute for leather. Information is given on the characteristics of Panplast, its manner of application, its preparation and methods of handling, and formulae for its manufacture. Included in the report are several articles in German on Panplast and supporting documents and a pamphlet, also in German, issued by Kepec Chemische Fabrik.

REPORT on German plants making surgical dressings and prostheses. Off. Pub. Bd., Report, PB 2448. 1945. 86 pp. Price: Microfilm, \$1.00; Photostat, \$6.00.

This report consists of: 1. Summary report (12 pages) on the surgical dressing industry in Germany by Warner Eustis. Although little new was discovered in this investigation, this summary reveals the scope and status of the industry in Germany which was dispersed among numerous small concerns. Condition of individual plants and their products are briefly described. 2. Documents dealing with the firm of Paul Hartmann A.G., Heidenheim, the largest manufacturer of surgical dressings. These include the annual report for 1943; photographs and plan of plant; list of overseas representatives of company; foreign patents of company; production and export value of products; catalogue. For another report by W. Eustis, see PB 2460, page 271.

L.G. FARBENINDUSTRIE A.G. Leverkusen—L.G. Werk. Reports from the Division of Experimental Pathology and Bacteriology. Off. Pub. Bd., Report, PB 1702. 1940-1944. 416 pp. Price: Microfilm, 4.50; Enlargement Print, \$28.00.

This reel of microfilm contains the following reports, in the order indicated.

1. Jahresbericht für das Jahr 1942, der Abteilung für exp. Pathologie und Bakteriologie. Leiter: Prof. Dr. Domagk. To January 30, 1943. 36 pp. This report seems to end

abruptly, pagination at the end is not consecutive, and it probably is incomplete. Use of sulphanilamides to counteract gas oedema infections, testing of several sulphur drugs against streptococci, staphylococci, typhus, paratyphus, coli, dysentery and tuberculosis are described in this report.

2. Jahresbericht, 1943. 38 pp. This material is not page numbered and seems to be a miscellaneous collection of data. Dates on the pages range from December, 1943, to December, 1944 (one page is dated November, 1941). Material gives results of experimental use of sulphur drugs on paratyphus, staphylococci, tuberculosis, streptococci and Bang's disease.

3. Jahresbericht für das Jahr 1943, der Abteilung für experimentelle Pathologie und Bakteriologie. Leiter: Prof. Dr. Domagk. To January 30, 1944. 102 pp. Further report on use of various sulphur drugs against streptococci (activity of a great many compounds is reported upon, including a code number and structural formula of the compound), pneumococci, types I, III (also many compounds reported upon), staphylococci, gas oedema infections, coli, paratyphus, typhus and dysentery.

4. Jahresbericht, 1940, der Abteilung für experimentelle Pathologie und Bakteriologie. Leiter: Prof. Dr. Domagk. Teil I. 133 pp. This report presents an address delivered by Domagk in Spanish, *Quimioterapia de infecciones bacteriales* (chemotherapy of bacterial infections), in printed form (15 pages), results of experimental work on "Prontosil rubrum, Prontalbin, Prontosil soluble, Eupatin, Neo-Uliron, Uliron C, Sulfaipyridin, Mesudin, Zephiron-lösung, Zephiron-blätter", et cetera on various bacterial infections, results on various bacterial infections of a number of sulphur drugs (code number and structural formula given), a confidential report (18 pages) from "Bayer", *Wissenschaftliche Abteilung*, on use of Eupatin II (a sulphur drug similar to sulphanilamide) against several bacterial infections, and a manuscript, *Die Chemotherapie infizierten und infektionsgefährdeten Wunden* (the chemotherapy of infected and probably infected wounds). 21 pp.

5. Jahresbericht, 1941, der Abteilung für exp. Pathologie und Bakteriologie. Leiter: Prof. Dr. med. Domagk. Teil I and II. 107 pp. This report appears to be incomplete, since pages 40-50 inclusive are missing. Further work is reported on the use of various sulphur drugs in the treatment of various bacterial infections, such as streptococci, pneumococci, staphylococci, Bang's disease, dysentery, tuberculosis, gonococci, meningococci et cetera.

MARRIOTT, H. L., LEIGHTY, J. A., AND MEYER, A. E. Medical and pharmaceutical targets in Northern Germany and Holland. Off. Pub. Bd., Report, PB 1859. 1945. 199 pp. Price: Microfilm, \$2.00; Photostat, \$14.00.

This report deals with the investigation of medical and pharmaceutical establishments in northern Germany and Holland. This report is divided into two major sections. The first deals with medical, the second with pharmaceutical information. Extensive discussions are presented on the Kuntscher method of internal splinting of long bone fractures, Degkwitz's technique of aimed injections, Keeser's work on toxicology of explosives (German original and an abstract of his report on prophylaxis and therapy of health hazards in munition workers) and the problem of experimentally induced arteriosclerosis. Members of the staff of the Institute of Tropical Diseases at Hamburg (which was destroyed) were questioned on malaria, kala-azar, amebic dysentery, bacillary dysentery, papataci fever, typhus fever and trench fever. A survey of work in Holland on antibiotics is presented. The impression is given that there was a standstill in medical progress in Holland during the war. Fifteen pharmaceutical firms were visited. Their organization, research work, products and production capacity are presented in detail.

MISCELLANEOUS German scientific and medical documents. Off. Pub. Bd., Report, PB 1698. Cover sheet date, July 14, 1945. 771 pp. Price: Microfilm, \$8.00; Enlargement Prints, \$52.00.

This reel consists of 45 typewritten manuscripts and several journal articles in German listed by title below. Each has a brief English summary, prepared by Richard F. Kuhn, of the Med. Sec. of O.S.S. The documents are numbered 56-100 inclusive, and there are index lists—"Catalog No. 3" for documents 56-75 and "Catalog No. 4" for documents 76-100.

56. Wirth, W.: *Toxikologische Beurteilung des Arsenwasserstoffes als Kampfstoff*. (Critical examination of arsine as war gas from toxicological standpoint.) July 3, 1941. 8 pp.

57. Gutzeit, K.: *Die Kriegsnephritis*. (Field nephritis (trench foot).) July 8, 1943. 38 pp.

¹ Supplied by the Information Service of the Council for Scientific and Industrial Research.

58. Boehne: *Die Pathologie der Gasödeme und ihre Beeinflussung durch die verschiedenen Vorbeugungs- und Behandlungsverfahren.* (Pathology of gas oedemas and their prophylactic and therapeutic treatment.) January 9, 1945. 27 pp.

59. Bockemuller: *Zur Wirkung der Fluor-kampfstoffe.* (Action of poisonous agents containing fluorine.) April 24, 1942. 8 pp.

60. Beuchelt, H.: *Wirkung von Gemischen aus Geländerkampfstoffen und organischen Lösungsmitteln.* (Nine articles.) (Efficiency of poisonous agents mixed with organic solvents.) August 18, 1942, 13 pp.; October 28, 1942, 14 pp.; March 3, 1943, 2 pp.; March 22, 1944, 5 pp.; March 2, 1944, 9 pp.; March 2, 1944, 19 pp.; July 18, 1944, 13 pp.; July 19, 1944, 18 pp.; July 26, 1944, 7 pp. Total: 100 pp.

61. Kopplow, E.: *Das Verhalten von Immunkörpern beim lagern der Serumkonserven.* (Behaviour of immune bodies during storage of "serumkonserven".) 1943. 10 pp.

62. Glaeser, H.: *Das Verhalten von Fermenten beim lagern der Serumkonserven.* (Behaviour of enzymes during storage of "serumkonserven".) No date. 11 pp.

63. Schu.? *Über die Ausbreitung von löslichen Giftstoffen im Grundwasser.* (Distribution of soluble poisons in subsoil water.) August 13, 1944. 19 pp.

64. Hellmuth and Gopfert: *Neue Nachweisreaktion von Phosgenoxim.* (New reaction for detection of phosgene oxime.) March 20, 1943. 5 pp.

65. Lendle: *Über die Möglichkeit das salzsäure Salz des Stickstoffloses (T9) zur Vergiftung von Trinkwasser zu Verwenden.* (Use of hydrochloride of trichloroethylamine (nitrogen mustard gas) (T9) for poisoning drinking water.) No date. 12 pp.

66. Wirth, W.: *Vergiftungen bei der Wehrmacht.* (Poisonings in the wehrmacht.) No date. 22 pp.

67. Geminhardt, K.: 1. *Entwicklung eines Trinkwasseraufbereitungsverfahrens für Festungswerke.* 2. *Weitere Versuche zur Entwicklung eines Trinkwasseraufbereitungsverfahrens für Festungswerke.* 3. *Zur Frage der Einwirkung chemischer Kampfstoffe auf das Trinkwasser und ihre Unschädlichmachung.* (Three articles dealing with war gases and their decontamination in drinking water.) 1. December 22, 1938, 12 pp. 2. January 15, 1940, 33 pp. 3. July 3, 1944, 10 pp. Total: 55 pp.

68. Neumann, W.: *Versuche zur Behandlung der E-stoffvergiftung mit Alkohol.* (Alcohol treatment of "E" poisonings.) (B-fluoro-ethanol and n-butyl-fluoroacetate.) July 1, 1940. 3 pp.

69. Postel, E.: *Bericht über die Hautentgiftung von Lost mit Fetalcol, unter besonderer Berücksichtigung der Verwendbarkeit von Meerwasser.* (Demustardization of skin by "Fetalcol" with special regard to sea water.) August 26, 1943. 9 pp.

70. Postel, E.: *Bericht über Hautentgiftung mit Hautentgiftungsalbe.* (Depoisoning of skin by decontaminating ointment.) August 22, 1944. 6 pp.

71. Postel, E.: *Hautentgiftung mit Satina-präparaten.* (Decontamination by means of "Satina" preparations.) June 2, 1944. 17 pp.

72. Grab, W.: *Über die Reaktion von Lost mit Vitaminen und Cofermenten.* (Reaction of mustard gas with vitamins and coenzymes.) June 7, 1941. 10 pp.

73. Niemann: *Über die Vernichtung der Kampfstoffe mit unterchloriger Säure.* (Depoisoning by means of chlorine (hypochlorous acid).) June 22, 1943. 11 pp.

74. Wirth, W.: *Prüfungsbericht zur Frage der Schädigung des Leders bei der Entgiftung von Ledersiefern durch Heissluft.* (Leather damage in boots decontaminated by means of heated air.) January 31, 1945. 4 pp.

75. Postel, E.: *Bericht über die "Clarhand"—Seife als Hautentgiftungsmittel für Lost.* ("Clarhand" soap decontamination of human skin.) November 19, 1942. 12 pp.

76. Kotzing: *Entgiftungsversuche mit synthetischen Hautreinigungsmitteln (Pracutan, Satina, Rhoda sopa) bei Vergiftung mit hautschädigenden Kampfstoffen.* (Decontamination of vesicants by means of synthetic cleaners for skin.) October 9, 1941. 53 pp.

77. Postel: *Hautentgiftung mit Produkt 12.* (Decontamination of skin with compound 12.) February 10, 1944. 13 pp.; March 21, 1944, 3 pp.; January 24, 1945, 8 pp. Total: 24 pp.

78. Randerath, Edmund: *Erfahrungen über die Häufigkeit von Herzklappenzündungen und Herzklappenechtern bei Wehrmachtangehörigen im Felde.* (Frequency of endocarditis and vitium cardiale in field soldiers.) Reprint from "Der deutsche Militärarzt" 9 Jahrgang, 1944. Heft 4, 161-165. 6 pp.

79. Ranke, O.: *Gewichtsparende Verpflegung.* (Weight-saving foods.) February 2, 1943. 19 pp.

80. Ruge, H.: *Zur Ätiologie der sog. Hepatitis epidemica.* (Ätiology of so-called Hepatitis epidemica.) Page proof from "Der deutsche Militärarzt", dated July 27, 1944. 7 pp.

81. Gutzeit, K.: *Erfahrungsbericht über die Durchführung der leichenden Grippe-prophylaxen im Frühjahr, 1941.* (Experiments on influenza prophylaxis in the spring of 1941.) No date. 7 pp.; June 3, 1941, 4 pp. Total: 11 pp.

82. Glatzel, H.: *Erfahrungen über die Verwendung der "notverpflegung Süss" und der "notverpflegung Fleisch" in der Krankendiatetik.* (Experiences in using "emergency food sweet" and "emergency food meat" in medical diets.) No date. 6 pp. Almost illegible.

83. Doerr, Wilhelm: *Zur pathologischen Anatomie der Tularämie.* (Pathological anatomy of tularaemia.) No date. 15 pp.

84. Rommeney, G.: *Die Unterscheidung von Ein- und Ausschusswunden und ihre forensische Bedeutung.* (The differentiation between entrance and exit wounds and their meaning from the medical-legal point of view.) July 24, 1944. 12 pp.

85. Schwiegk, H.: *Methode zur fortlaufenden Registrierung der Ödembildung am isolierten durchstromten Kaninchenohr.* (Method for recording developing oedema in the isolated perfused ear of rabbits.) Article from an unnamed journal. 1944. 4 pp.

86. Grab, W., and Lang, K.: *Einfluss des Vitamins C auf die Kälteresistenz.* (Influence of vitamin C on cold resistance.) Proof from *Klinische Wochenschrift.* No date. 3 pp.

87. Ranke, O.: *Bericht über den thermischen Atemschutz.* (Report on the "Thermischen Atemschutz".) March 13, 1942. 22 pp. Film is poor.

88. Kornmann, Heinz: *Über den Stoffwechsel des Thiodiglycols im Tierkörper.* (Metabolism of thiodiglycols in the animal organism.) Doctor's thesis—Friedrich-Wilhelms-University, Berlin. September 30, 1939. 21 pp.

89. Randerath, E.: *Pathologisch-anatomische Erfahrungen zur Frage der Wirksamkeit der Sulfonamides bei den Kriegswundinfektionen.* (Efficiency of sulphanilamides in wound infections on the battlefield as seen from pathological-anatomical viewpoint.) October 20, 1942. 18 pp. Film is poor.

90. Ranke, O.: *Leistungsteigernde Mittel.* (Efficiency-increasing drugs.) No date. 16 pp.

91. Heide, S.: *Versuche zur Erhaltung der 1-Ascorbinsäure durch Kohlendioxyd (1-Ascorbic acid stabilization by means of carbon dioxide).* No date. 15 pp.

92. Schwiegk, H., and Schöttler, W. H. A.: *Kreislaufveränderungen nach eismarschischer Blutleere.* (Changes in circulation after arterial blockage.) Reprint from *Klinische Wochenschrift*, 22: 477-481, 1943. (July 21, 1943.) 15 pp.

93. Bethke, Harald: *Schädigungen durch Luftstoss.* (Injuries by blast pressure.) No date. 13 pp.

94. Kraut, H.: *Zusammenhang von Leistung und Nahrungsauaufnahme.* (Correlation of efficiency and food intake.) January 15, 1944. 6 pp.

95. Neumann, W.: *Versuche zur Behandlung der Vergiftung durch Fluorstoffe mit Alkohol.* (Experiments on alcohol therapy of poisoning by fluorine compounds.) See also number 68 above. June 21, 1940. 3 pp.

96. Scholz: *Wirkung von Blausäure und Chlorcyan und Gemischen daraus auf die aussere Atmung.* (Action of HGN and CNCl and mixtures thereof on respiration.) November 20, 1943. 9 pp.

97. Kleffner, Ursula: *Zur Bestimmung von Vitamin C. Über das beim Erhitzen von Lebensmitteln auftretende Reduktionsvermögen gegenüber Dichlorophenolindophenol.* (Determination of vitamin C. Increased reducing power of heated foodstuffs to dichlorophenolindophenol.) No date. 7 pp.

98. Kramer, K., and Seemann, J.: *Ein neues Kalorimeter.* (A new calorimeter.) No date. 5 pp.

99. Kroeger and Postel: *Entgiftung von Phosgenoxim auf der Haut.* (Decontamination of phosgene oxime from the skin.) June 15, 1943, 21 pp.; February 10, 1943, 20 pp. Total: 41 pp.

100. Wirth and Bernholt: *Zusammenfassender Bericht über Untersuchungen zum Problem Lederschutz gegen Kampfstoffe.* (Summary of experiments on leather protection against poisonous agents.) December 15, 1943. 28 pp.

British Medical Association News.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held on August 29, 1946, at the Robert H. Todd Assembly Hall, British Medical Association House, 135, Macquarie Street, Sydney. DR. A. C. THOMAS, the President, in the chair.

Disorders of Micturition.

DR. H. H. SCHLINK read a paper entitled "The Disorders of Micturition" (see page 512).

DR. A. B. WALKER-SMITH read a paper entitled "Disorders of Micturition in the Female" (see page 516).

DR. D. C. TRAINOR thanked both speakers for their papers. He said that the subject of disorders of micturition in women was of interest not only to urologists and gynaecologists, but to most practitioners, apart from which it was also of great personal interest to a large number of women. DR. Walker-Smith had mentioned a type of cystitis in which there were no very definite signs. DR. Trainor said that this was a condition which was very common and no particular pathology could be ascribed to it. The urine in such cases was frequently clear, and on cystoscopy the bladder was found to be normal. Sometimes trigonitis was present, but often it was not, or only very slightly. Such cases were difficult to treat. He would not advise, as some had done, that 1% silver nitrate should be instilled, but in two cases in which he had known this to be done by mistake (1% had been used instead of 1 in 1,000) both women had been cured of their long-standing symptoms, although the reaction had been violent and a good deal of the bladder mucosa had been shed. DR. Trainor continued that he had been treating these patients successfully by instilling silver nitrate solution in gradually increasing strength, commencing with a 1 in 3,000 solution. By increasing in small steps the strength of the daily instillation a solution of 1 in 400 silver nitrate could often be reached with very little discomfort. Patients recovered on this treatment, but it was difficult to know just why they did. DR. Trainor mentioned this type of case because it was so common, and because its causation was so little understood. He had often wondered whether such cases might not be a mild form of interstitial cystitis, or Hunner's ulcer (which was not really an ulcer at all). There was really nothing to substantiate this claim other than the fact that these patients showed in a very much milder form all the symptoms of a classical interstitial cystitis, even to the point of having a decreased bladder capacity. They did not show the typical cystoscopic picture, but they responded to the silver nitrate treatment, and so in many cases did patients with true interstitial cystitis, though this was not generally used. DR. Walker-Smith had referred to stricture of the urethra. Another kind of stricture occurred, and that was bladder neck contraction—a kind of female prostatism, and although this could often be adequately treated by dilatation, resection was sometimes called for and was best done by the cold punch.

DR. C. L. CHAPMAN spoke from the gynaecological standpoint. He said that the papers had covered the ground thoroughly in a general way. Referring to the treatment of fistula, DR. Chapman said that the first thing to do was to wait; a number of fistulas would heal spontaneously, provided there was sufficient drainage from the urinary tract. As DR. Schlink had said, one should wait for six months; then a number of projected operations would prove unnecessary. With regard to urinary symptoms in women, two facts should be brought out on general lines. The first was that in many women the vagina was wide open, and as nature had provided a poor position for the urethra in relation to the rectum in such women, it was necessary to effect partial closure of such vagina to prevent urinary troubles. This measure would often solve the problem of recurrent urinary symptoms. Secondly, infections of the cervix would cause urinary troubles in women, such as trigonitis from deep infection of the cervical glands with consequent frequency of micturition. Not until the cervical infection had been removed was the trigonitis cleared up. Sometimes hysterectomy would be called for. One interesting condition had occurred twice in his experience—uretero-abdominal fistula. Sometimes in the treatment of an ovarian cyst the ureter might be unwittingly injured. After the abdomen had been closed the ureteral wall would slough out, the patient would become very ill, and some doubt would be felt as to what the condition was. Soon a swelling would be noticed in the region of the abdominal incision and the urine would be discharged. If one waited, the

fistula would heal. DR. Chapman finally said that in the surgical treatment of urinary fistulae too many sutures should not be inserted; in fact as few sutures as possible should be used. He referred to a new type of catgut suture which was coming on to the market, number "00000" brown, and said that it would be of great use in the treatment of these fistulae.

DR. J. W. S. LAIDLEY said that he had greatly enjoyed both papers, and had a few comments to make. He had noticed that neither speaker had stressed the occurrence of congenital abnormality in the female urethra. Such abnormalities were not common in adults; but congenital abnormality of the urethra was very common in the female child. In fact, small meatus, congenital small urethra and similar conditions were the common causes of recurrent cystopyelitis in the female child, and presented a constant problem to anyone working with that type of condition in female children. They were a "standing dish" in a children's hospital. Fortunately, most of these disabilities were cured by puberty and few were carried on into adult life.

Another small point concerned bladder neck conditions. Sometimes one found a well-established median bar which was simply asking to be divided. But before this happened one saw many early cases in which there was a congested ring of mucous membrane about the bladder neck, and one feature of this ring of tissue was that there were nearly always present any number up to half a dozen small mucous polypi; some of these contained a small blood vessel, and some occasionally contained such a large blood vessel that they resembled miniature haemorrhoids. Some were of appreciable length, and all were associated with dysuria in the female and seemed to be stress phenomena. Referring to stress phenomena, DR. Laidley said that in cases of long-standing cystitis the patient might complain of tenesmus and frequency of micturition for weeks or months. Then the urine became clear, but stress phenomena were left, and on cystoscopic examination polypi were found at the bladder neck. Sometimes if the polypi were long enough, the stream of urine might turn them into the urethra, and the sphincter then closed on the polypi and caused tenesmus. It was easily and rapidly relieved by fulguration through the cystoscope; in fact, that procedure seemed to effect a cure.

DR. Laidley then discussed the subject of fistula. He said that he was in entire agreement with DR. Schlink that the prime mover in the treatment of vesico-vaginal fistula should be the gynaecologist. The vaginal operation was a minor procedure in comparison with a major suprapubic operation. Healing after the first operation by either route was not universal, and the procedure might have to be repeated twice or three times or even more. If so, access from the vagina was much easier than from above, and it could be repeated with much less trauma to the patient and less time in hospital. The type of case in which the urologist could help was that in which the exposure was inadequate for the gynaecologist working from below; he could then ask the urologist to see what he could do from above. DR. Laidley then referred to the patient with a vesico-cervical fistula whom DR. Schlink had mentioned in his address. The patient had been referred from the country because of painless haematuria present for two or three months. DR. Laidley had seen the patient in hospital, and had not had the opportunity to take a very complete history. He arranged to carry out a cystoscopic examination on the following day. At this examination he was amazed to see, not a papilloma as he had expected, but a small opening high up on the wall of the bladder. The patient on being questioned then said that she thought that the haematuria had come on after the curetting of her uterus for a miscarriage, and that it occurred only every twenty-eight days. DR. Schlink repaired the fistula from the vaginal approach, and as he stated the operation was a complete success.

DR. Thomas, from the chair, said that the discussion had been instructive and interesting, one from which those present must have learnt a great deal.

Special Correspondence.

LONDON LETTER.

From OUR ENGLISH REPRESENTATIVE.

HOUSING is a headache, alike to the homeless and to those in authority. Before the last election extravagant promises were made by Socialist candidates as to what would be done and done quickly in this direction mainly by the

setting up of a Ministry of Housing. One prominent Minister to be was so rash as to say that the whole business could be settled in a couple of weeks. On taking office the idea of a new Ministry was dropped on the score of saving time and the providing of houses was handed over to the Ministry of Health. Mr. Aneurin Bevan threw himself into his very difficult task with characteristic energy and dash, and, it may be added, with his usual refusal to incorporate in his new plans what had been proved to be useful in the past. Several ways presented themselves for providing the needed accommodation: (a) the repairing and rebuilding of war damaged houses; (b) the requisitioning and reconditioning or adapting of unoccupied dwellings; (c) building of new permanent houses; and (d) the erection of temporary or prefabricated houses, better known as "prefabs". For all purposes there was a shortage of labour and material, and in the case of the "prefabs" valuable time had to be spent in deciding on the most useful type or types. The Minister decided early that houses to rent were to be given priority over houses that people could buy, and that the local authorities (city, town, borough and rural district councils and the like) were to be the "chosen instruments" in his building scheme, working under the Ministry of Health, some of whose functions were delegated for this purpose to regional committees. Though paying tribute to private enterprise in the shape of private builders, he ruled that in any particular area only one house in five could be entrusted to them. This was to further the erection of houses to rent rather than those to be sold to private owners. The Minister's choice of local authorities as his agents is rather surprising, as later he made many scathing remarks about them, particularly with regard to hospital management.

While plans were being matured for building permanent houses and providing the "prefabs", all energies and labour forces were concentrated on the repairing of those war damaged houses which could quickly be made fit for occupation. This line of approach had been opened up before Mr. Bevan took office and he backed it strongly and with good results. In the sixteen months ending July this year some 620,000 houses have been reconditioned. In the same period 92,000 houses have been requisitioned and adapted for residential purposes; 56,000 of these are in the London area. Most of the buildings so taken over were large or moderately large and so capable of being split up into several flats with a minimum of new construction work.

The Minister was not so successful with his new building projects, permanent or temporary. Here other Ministries, such as Town Planning, Supply and Labour, came into the picture with consequent delay and frustration. After deciding on a site for new houses, the local authority had to get Town Planning's approval before submitting its scheme to Health in order to obtain the necessary financial backing in the shape of subsidies and loans. Once this was done, Supply and Labour had to be tackled for materials and manpower. All this spelt delay, and by July last more than a thousand of the fifteen hundred local authorities had not completed one permanent house since the end of the war and about two hundred and thirty authorities were still without approval of their plans by the Ministry of Health.

Despite much pressing the Minister has always been shy of setting a target which he hoped to reach by the end of this year. Mention was made once of a figure of 300,000, but was quickly retracted. Not so long ago Mr. Tomlinson, Minister of Works, forecast that 100,000 permanent and 100,000 temporary houses would be completed by the end of this year, but Mr. Bevan was prompt to point out that this was merely a personal hope on the part of his brother Minister and did not in any way represent the Government's target. This reticence in leaving the matter vague is seen to be wise when figures are considered. In the sixteen months ending July this year the total of new houses built or erected was just over 60,000, one-third being permanent and two-thirds temporary. The total labour engaged, excluding prisoners-of-war, has risen from 320,000 a year ago to over 521,000 today. This notwithstanding, only 10,000 houses were completed during July, divided equally between permanent and temporary. The supply and transport of materials and fittings are bottlenecks, owing to actual shortage and not helped by centralized direction. A batch of "prefabs" in this area was ready for use except for some necessary painting; the men to do the work were on the spot, but had no paint. When the paint came to hand the painters had been diverted elsewhere and the "prefabs" are still unoccupied. The local authority is incurring interest charges on its housing loan and no rents are coming in to help meet the bill. This will mean a rise

in the local rates, never a popular proceeding. Arrangements were made to fit refrigerators in the "prefabs", but owing to short supply none have been installed. The temperature of the present summer has not made this any hardship. Now baths are not available and permission has been given officially for houses to be occupied without these adjuncts to personal cleanliness.

Much fun has been made of these "prefabs" by comedians on the stage, on the wireless and in the comic Press: for instance, there is the story of the man who, as a preliminary to living in one, taught his dog to wag his tail up and down instead of from side to side, owing to lack of space, or the picture of the "prefab" that collapsed in a heap because the scaffolding was taken down before the walls of the rooms had been papered. Satirical whimsicalities of this sort are many and they have a definite place and moderating influence in daily life. They serve as safety valves and take the place of the rabid abuse and even personal violence which one reads of as occurring elsewhere. It is not easy to be really angry at or with a man or a policy which has been made to appear in a ridiculous light. Even food rationing appears less obnoxious after it is suggested that if and when a leading exponent is transferred to the House of Lords an appropriate title would be Baron Larder. Old parliamentarians are inured to this sort of thing, but even *The Times* is somewhat astonished and bewildered at the way some of the present Ministers resent these "gibes . . . that set the table in a roar".

But to return to the "prefabs". Personal observation supports the view that they should be easy to run, comfortable to live in and large enough for a married couple with one or two children under the age of ten. As the life of one of these houses is set at ten years they should suffice. It is felt, however, that they may follow the example of the Munitions Building in Washington which was built as a temporary measure for the 1914-1918 war and is still functioning today.

The cost of erection has risen steadily owing to increases in wages, cost of materials, and in administrative expenses owing to several government departments being concerned. Subsidized permanent houses cost 7s. 10½d. a foot super in 1935. Today the price varies from 25s. to over 40s. a foot super. The final bill will be enormous. A former director of housing at the Ministry of Health has stated that if the Government achieves only half its programme it will cost in subsidy 3,000 million pounds or three times the amount of the American loan. All this means higher rentals. A nearby local authority has fixed the weekly rent of its "prefabs" at 15s. 6d., which includes actual rent to cover cost of land and building at 12s. 2d. and rates 3s. 4d. The houses are all electric and a fixed yearly charge of £2 10s. is made; every unit consumed over 120 is charged for at three farthings. It is doubtful if the poorer families can afford this sum, and already some people are failing to take up vacancies as they occur. This will defeat the purpose of the scheme. While it is certain that a project of this size could only be carried through with government aid, it is doubtful if the method chosen to implement it has been the best available. It is a fact that the private builder completes buildings more quickly than the local authorities can and it is claimed more cheaply, though this is not so easy to prove. *The Times* is getting anxious and sets out a number of factors "about which the Government ought to be speaking frankly", and adds that "much of the information required has not been published".

This housing delay has led recently to a curious situation, as in many places families have moved of their own accord and without permission into empty huts camps, abandoned A.A. gun sites, houses held under government, service or local authority requisition and the like. These people are called "squatters", a good old Australian term, and are most methodical and orderly in their invasion. At first the Government ignored the situation, but the illegal entry became so widespread that a departmental committee, with regional subsidiaries, was set up in a hurry to classify camps into: (a) those required for urgent governmental purposes, such as for prisoners-of-war, men returning from overseas, industrial training centres and the like; (b) those camps which are redundant; and (c) camps wholly or partly in possession of the squatters. In the first group any squatters are to be cajoled out into alternative accommodation, and the suggestion is that this will be provided by the local authority of the area—how is not stated. Group (b) may be offered to the local authority and will be regarded as part of their housing scheme. Where squatters are allowed to settle or to remain, the local authority will be called upon to manage the camp, provide public services (heating, lighting, water, sanitation and

postal facilities) and to collect rents. If squatters refuse to move, the authority in whose name the camp stands will decide whether or not legal action should be taken to procure eviction. This is, however, a last resort. As this is being written news is being broadcast on the wireless of a mass organized movement of some thousand people, ranging in age from babies in arms to old-age pensioners, from various parts of London to empty flats in Kensington and adjoining areas. They arrived by train, tube, bus, bicycle, motor lorry and taxi. The police controlled the traffic, and when hot tea was brought along in army lorries and vehicles provided by the Women's Voluntary Services, the constable turned to and assisted at the distribution. This invasion, said to have been organized by the Communist Party, had a working committee already appointed who at once made necessary arrangements for feeding and other incidentals. American soldiers were the last occupants of the flats thus taken over. The people have taken direct action and done it successfully. It is just a repetition of what took place over the use of tube stations as air-raid shelters in London during the 1940 bombing. At first such use was strictly forbidden. The Londoners obeyed this order for three or four nights, and then suddenly went underground in such numbers that the authorities were powerless and wisely set to work to make the tube stations comfortable and healthy. The present situation is developing rapidly, and where it will end is not easy to see. So far the people are one step in front of the rulers, a situation which often breeds trouble.

R. J. V. PULVERTAFT, O.B.E., M.D., F.R.C.P., has had the title of Professor of Clinical Pathology conferred on him by the University of London in view of his position as director of the J. B. Carlill Laboratories at the Westminster Hospital Medical School. Dr. Pulvertaft was for a time assistant director of pathology to the Middle East Forces, and as such would be known to some Australian medical officers personally and to many more by his reports. While in Egypt he worked particularly on streptococcal infections and later on penicillin.

Following the inquiry into the incomes of doctors a somewhat similar committee of nine members, four of whom are dentists, has been set up. Sir Will Spens is again to be chairman, and the committee is asked to recommend "what ought to be the range of total professional income of a registered dental practitioner in any publicly organized service of general dental practice". The committee is also asked to state what the rate of remuneration should be so as to maintain a proper social and economic status for the profession in the future and to attract suitable recruits.

Telephone calls for doctors from home. In these days of shortage of domestic staff a doctor may often leave no one in the house to take telephone messages when he is out. Some Liverpool men have overcome the trouble by setting up a telephone bureau of their own, staffed mainly by former medical orderlies and telephonists from the services. While the doctor is from home incoming calls are diverted to this bureau, with which he keeps in touch from time to time and so gets early any messages that have come for him. The estimated yearly cost to each doctor is £20.

Brigadier J. S. K. Boyd (late R.A.M.C.), who was well known in the Middle East and now is director of pathology at the War Office, has been appointed as director of the Wellcome Laboratories of Tropical Medicine in succession to Dr. N. Hamilton Fairley.

Parcels from Australia. From time to time complaints appear in the daily Press as to the non-arrival of gift food parcels from Australia sent to people in this country. The Times recently opened its columns to the subject and extracts from a number of letters have appeared, most of them for the prosecution. Several letters are quoted which have been written by senders in Australia to Australian newspapers, notably The Sydney Morning Herald. Two main causes for the losses are brought forward, pilfering and official diversion. Some correspondents feel that "pilfering" is the only cause, whether it is done by private individuals or by the Board of Trade, under the euphemism of diversion. It is argued with some reason that diversion under Board of Trade regulations tends to open the door to "further pilfering on the part of individuals who are likely to feel that their action is covered by the fact that so many parcels are unwarrantably redirected by government officials". There is no doubt as to the justifiable concern felt both here and in Australia, and also that where some parcels do not arrive addressees are not notified as should be the case where parcels are diverted.

It is not easy to arrive at a proper estimate as to what number of parcels fail to reach their proper destination. One recipient writes, "during the war I and my friends

received a considerable number of parcels and I do not know whether any went astray". This is certainly the experience of your representative and of nearly all people with whom the matter has been discussed. The time taken in transit varies greatly and may lead to false conclusions being drawn. A blank period of a couple of months or so is followed by the arrival of several parcels in a week or ten days. This irregularity of arrival may lead people to believe the worst of the officials through whose hands the gifts pass.

Turning from this aspect of the problem which is tinged with doubt, it is pleasant to record the high opinion in which the parcels are held and the warm gratitude with which they are welcomed. The packing is good, the food is excellent and of a type and quality not otherwise obtainable and the selection of commodities shows much careful thought. To quote expert opinion of a competent daughter-housekeeper: "Australian food parcels are the most splendid help, for they make all the difference between dull monotony and pleasant meals. There is also a comforting sense of security about a tin of 'something nice' in the store cupboard, so that a friend can be invited in without the dread thought that there will be nothing respectable to offer. Even when we have the 'points' we cannot find what we would like in the shops. Most dried fruits, apart from figs and prunes, are unobtainable; a housewife would willingly queue for hours in the hope of getting a tin of peaches or apricots, but she does not get even the chance to do so. Sultanas and candied peel are also very difficult. One of my standbys is fruit biscuits, a home invention, and christened 'Melbourne biscuits', because their flavour is given by the Australian candied peel in them. When 'points' stood at 24 per person per month it cost the whole 24 to get a small tin of tongue. The parcels arrive in good condition as a rule; one had been gnawed by rats, but that was an exception. But please could fruits, candied peel, sultanas and other sticky and sugary things be wrapped in waxed paper. Unsealed packets of jelly crystals and soap powder have a perfect genius for splitting; I have sneezed and wept more than once over a burst packet of 'Rinso'. When rationing is forgotten I will remember with gratitude that Australian parcels made it possible for me to have a twenty-first birthday party, cake and all. We really do quite well on the whole, but it takes a good deal of contriving and every scrap of extra counts. As an ordinary housewife I am always pleased and thankful to see a postman at the door with a 'parcel from Australia'."

Correspondence.

MEDICAL CHAIRS IN AUSTRALIAN UNIVERSITIES.

SIR: Interest in a medical school for Western Australia has led me to study the various schools of medicine in the British Empire.

Compared with Edinburgh, the Australian medical faculties are all very poorly staffed. Sydney, with professors of medicine, surgery, obstetrics, psychiatry and tropical medicine, is by far our best, but should by now have chairs in child health, pharmacology and tuberculosis.

That a city the size of Melbourne should have no professors in medicine, surgery or psychiatry is certainly amazing.

Can we state that medical education in Australia is satisfactory?

Yours, etc.,

F. W. SIMPSON.

271, Cambridge Street,
Wembley Park,
Western Australia.
September 21, 1946.

THE MEDICAL BENEVOLENT ASSOCIATION OF NEW SOUTH WALES.

SIR: The Medical Benevolent Association of New South Wales has been in existence for fifty years, and has during that time tried to deal faithfully with all cases brought before it of doctors in need through age or infirmity, or of their dependants where financial help has been really necessary.

In a number of cases students, sons of doctors left inadequately provided for, have been materially assisted in carrying on a course (usually medicine) at the university.

The council of this association is anxious to hear of cases of doctors or dependants who might come within the ambit of the aims of the association.

The object of the council is gradually to build up a fund, the interest of which, combined with subscriptions, will put the finances in a sound position. This association obtains funds from subscribers, members and life members.

While subscriptions are appreciated, appeal is made to all medical men and women in New South Wales to become members at a guinea *per annum* or life members after fifteen years of membership or on one payment of £10 10s. Hardly a third of the registered medical practitioners of New South Wales have contributed.

Membership confers no personal advantage, but it means that help is being provided for those of our brethren or their dependants who are unfit to help themselves or who in old age have hardly sufficient to keep body and soul together, as sadly enough does happen from time to time.

Yours, etc.,

G. C. HARPER,
Honorary Secretary, the Medical
Benevolent Association of New
South Wales.

September 16, 1946.

Naval, Military and Air Force.

DECORATIONS.

THE following officers of the Australian Army Medical Corps have been awarded the Australian Efficiency Decoration.

Lieutenant-Colonel (Temporary Brigadier) Walter Paton MacCallum, D.S.O., M.C., Colonel (Temporary Brigadier) George Brumfit Gibb Maitland, D.S.O., D.C.M., Colonel John Colquhoun Belisario, O.B.E., Lieutenant-Colonel (Temporary Colonel) Arthur Hammill Green, Lieutenant-Colonel (Temporary Colonel) David Zacharin, Lieutenant-Colonel (Temporary Colonel) John Leah, C.B.E., Lieutenant-Colonel (Temporary Colonel) Noel Hunter Weston Saxby, O.B.E., Lieutenant-Colonel (Temporary Colonel) Henry Markham Trethewan, Lieutenant-Colonel Norman Menzies Eadie, Lieutenant-Colonel Thomas Hamilton, Lieutenant-Colonel Russell Norfolk Howard, Lieutenant-Colonel Kenneth Charles Trineman Rawle, Lieutenant-Colonel John Bowie Somerset, Temporary Lieutenant Colonel Harry Edward Pearce, Major Norman Pratt Long, Major Geoffrey Pern, Major Walter Percy White.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 182, of September 26, 1946.

ROYAL AUSTRALIAN AIR FORCE.

Citizen Air Force: Medical Branch.

The appointments of the following officers are terminated on demobilization with effect from the dates indicated: (Temporary Squadron Leaders) M. Rohan (253344), 1st July, 1946, W. H. Smith (253443), 4th July, 1946, T. W. Jenkins (252867), 5th July, 1946, (Flight Lieutenants) V. W. Potter (282875), 26th June, 1946, R. J. Fleming (257137), C. P. Harrison (265173), H. S. Moroney (254365), M. R. Thompson (256874), J. R. Watt (257402), R. E. Wood (256797), 1st July, 1946, P. R. Bull (257476), D. M. Clarke (257635), 2nd July, 1946, T. Early (297427), R. A. Hill (257085), 3rd July, 1946, Temporary Squadron Leader B. C. Pirie (262084), 14th June, 1946, Temporary Flight Lieutenant, Acting Squadron Leader T. J. Fennell (263864), 12th June, 1946, (Temporary Flight Lieutenants) V. W. Pennington (266384), 12th June, 1946, R. G. Bligh (263611), J. A. Edye (266715), 13th June, 1946, J. B. Maloney (267436), 18th June, 1946, L. D. Waters (277535), 19th June, 1946, C. H. Knott (277522), 25th June, 1946.

The appointments of the following Temporary Squadron Leaders are terminated on demobilization with effect from the dates indicated: A. J. Harker (261287), 8th January, 1946, R. D. MacBeth (263254), 26th June, 1946.

The appointment of Flight Lieutenant C. Lancaster (257597) is terminated on demobilization with effect from 28th June, 1946.

Temporary Squadron Leader F. V. Munro (261278) is transferred from the Reserve to the Active Force for part-time duties with effect from 1st July, 1946.

Temporary Flight Lieutenant L. C. Rowan (253729) is granted the acting rank of Squadron Leader whilst occupying a Squadron Leader post with effect from the 1st March, 1946.

The appointments of the following officers are terminated on demobilization with effect from the dates indicated: (Flight Lieutenants) G. E. W. Bennett (257613) and J. H. Kelly (257430), 8th July, 1946.

The appointments of the following Temporary Flight Lieutenants are terminated on demobilization with effect from 9th July, 1946: L. C. Dunlop (267739) and D. S. Kidd (266325).

The appointments of the following officers are terminated on demobilization with effect from the dates indicated: Temporary Squadron Leader J. Catarinich (251887), 16th July, 1946, Flight Lieutenant C. S. Harper (297386), 10th July, 1946, (Temporary Wing Commanders) K. E. Shellshear (part time) (2055), 30th June, 1946, W. A. Seldon (261220), 4th July, 1946, Temporary Squadron Leader, Acting Wing Commander J. S. Burgess (261372), 26th June, 1946, Temporary Squadron Leader J. T. Gunther (272756), 21st June, 1946, (Temporary Flight Lieutenants) J. J. O'Hara (267716), 20th June, 1946, A. P. Cahill (264367), I. Filshie (266383), 26th June, 1946, R. H. Edwards (263892), L. G. Knott (277475), J. A. S. Robertson (267525), 2nd July, 1946, N. B. Howse (267413), J. E. Knight (267548), 3rd July, 1946, I. M. Lilley (267076), 5th July, 1946, Temporary Wing Commander A. J. W. Ahern (251884), 30th July, 1946, Temporary Flight Lieutenant, Acting Squadron Leader E. A. M. Ryan (255908), 5th August, 1946, (Temporary Flight Lieutenants) H. L. Benn (257556), 31st July, 1946, J. B. Felstead (257109), 2nd August, 1946.

Reserve: Medical Branch.

William Dyson Lee Farrar (1169) is appointed to a commission with the temporary rank of Group Captain with effect from 28th May, 1946.—(Ex. Min. No. 210—Approved 21st August, 1946.)

Kenneth Eden Shellshear (2055) is appointed to a commission with the temporary rank of Wing Commander with effect from 1st July, 1946.—(Ex. Min. No. 223—Approved 23rd August, 1946.)

Albert John William Ahern (251884) is appointed to a commission with the temporary rank of Wing Commander with effect from 31st July, 1946.—(Ex. Min. No. 224—Approved 23rd August, 1946.)

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

ANNUAL GENERAL COURSE.

THE Post-Graduate Committee in Medicine in the University of Sydney wishes to announce that arrangements have now been made for Professor G. S. Browne, Professor of Education of the University of Melbourne, to give two lectures on "The Use of Visual Aids and other Modern Devices in Instruction" on Tuesday and Thursday, November 12 and 14, 1946. These lectures will be held at 8 o'clock p.m. in the Stawell Hall, 145, Macquarie Street, Sydney, and medical practitioners are invited to attend. The lectures form part of the annual general course conducted by the Post-Graduate Committee, details of which are available on application to the course secretary, 131, Macquarie Street, Sydney. Telephones: BW 7483-B 4606.

Bibliographies and Summaries.

THE RESULTS OF RECENT RESEARCH.

THE following bibliography and summary of information has been prepared by the Council for Scientific and Industrial Research Information Service:

Serial number, 179. Date of preparation, May, 1946. Subject: "Ultraviolet Irradiation of Air."

Copies may be obtained on application to the Council for Scientific and Industrial Research Information Service, 425, St. Kilda Road, Melbourne, S.C.2. Applicants should state clearly the reason for which the bibliography is requested. It is proposed to make bibliographies *et cetera* subsequently prepared available in a similar way, and notice of their preparation will appear from time to time in this journal.

Dominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

Kaufmann, Ernst Norbert, M.B., B.S., 1946 (Univ. Sydney), 35, Darlinghurst Road, Darlinghurst.

THE FEDERAL MEDICAL WAR RELIEF FUND.

THE following contributions to the Federal Medical War Relief Fund have been received:

New South Wales.

W. F. Simmons (third contribution), £25.
R. A. Robertson, £21.
D. G. Carruthers, T. J. B. Connelly, T. M. Furber, Marie Hamilton, Margaret Mulvey, R. R. M. Perkins, L. H. Rogers, H. H. Schlink, £10 10s.
C. Anderson, J. H. Hornbrook, £10.
P. V. Dixon, W. F. L. Liggins, W. J. Pullen, J. B. Wilson, £5 5s.
Sylvia D. Bray (second contribution), £5.
D. J. Brennan, B. A. D. Curtin, D. A. Ferguson, £3 3s.
I. W. MacNaught, J. G. Radford, A. D. Shirley, £2 2s.
L. H. Joseph, £1 1s.
Total: £192 16s.
Grand total: £15,071 19s. 6d.

Medical Appointments.

Dr. B. Hunt and Dr. G. Moss have been appointed examiners under the provisions of the *Nurses Registration Act*, 1921-1944, of Western Australia.

Dr. A. R. Home has been appointed a member of the Visiting and Advisory Committee to the Albany District Hospital, Western Australia.

Sir Arthur M. Cudmore has been reappointed president of the Medical Board of South Australia.

Dr. A. W. S. J. Welch has been reappointed Police Medical Officer of South Australia.

Dr. W. F. Salter has been appointed Deputy Superintendent of the Northfield Mental Hospital, South Australia.

Books Received.

"Skin Diseases Nutrition and Metabolism", by Erich Urbach, M.D., F.A.C.A., with the collaboration of Edward B. Le Winn, B.S., M.D., F.A.C.P.; 1946, New York: Grune and Stratton, 9" x 6", pp. 656, with many illustrations. Price: \$10.00.

"Anesthesia in General Practice", by Stuart C. Cullen, M.D.; 1946, Chicago: The Year Book Publishers, Inc., 8 1/2" x 5 1/2", pp. 260, with many illustrations. Price: 28s.

"The Modern Treatment of Diabetes Mellitus, Including Practical Procedures and Precautionary Measures", by William S. Collens, B.S., M.D., and Louis C. Boas, A.B., M.D.; 1946, Springfield, Illinois: Charles C. Thomas, 9" x 6", pp. 526, with many illustrations. Price: \$8.50.

"Roentgen Diagnosis of Diseases of the Gastrointestinal Tract", by John T. Farrell, Junior, M.D.; 1946, Springfield, Illinois: Charles C. Thomas, 9" x 6", pp. 281, with many illustrations. Price: 30s.

"The Peripheral Circulation in Health and Disease: A Study in Clinical Science", by Robert L. Richards, M.D., with a foreword by J. R. Learmonth, C.B.E., Ch.M., F.R.C.S.E.; 1946, Edinburgh: E. and S. Livingstone Limited, 9 1/2" x 6 1/2", pp. 165, with many illustrations. Price: 21s.

"Food and Nutrition: The Physiological Bases of Human Nutrition", by E. W. H. Cruckshank, M.D. (Aberdeen), D.Sc. (London), Ph.D. (Cantab.), M.R.C.P.; 1946, Edinburgh: E. and S. Livingstone Limited, 8 1/2" x 5 1/2", pp. 333, with illustrations. Price: 16s.

Diary for the Month.

OCT. 15.—New South Wales Branch, B.M.A.: Medical Politics Committee.
OCT. 16.—Western Australian Branch, B.M.A.: General Meeting.
OCT. 17.—Victorian Branch, B.M.A.: Executive Meeting.
OCT. 17.—South Australian Branch, B.M.A.: Council Meeting.
OCT. 22.—New South Wales Branch, B.M.A.: Ethics Committee.
OCT. 23.—Victorian Branch, B.M.A.: Council Meeting.
OCT. 24.—New South Wales Branch, B.M.A.: Clinical Meeting.
OCT. 25.—Queensland Branch, B.M.A.: Council Meeting.
OCT. 31.—South Australian Branch, B.M.A.: Scientific Meeting.
OCT. 31.—South Australian Branch, B.M.A.: Council Meeting.
OCT. 31.—New South Wales Branch, B.M.A.: Branch Meeting.
NOV. 1.—Queensland Branch, B.M.A.: Branch Meeting.
NOV. 5.—New South Wales Branch, B.M.A.: Organization and Science Committee.
NOV. 6.—Western Australian Branch, B.M.A.: Council Meeting.
NOV. 8.—Queensland Branch, B.M.A.: Council Meeting.
NOV. 12.—Tasmanian Branch, B.M.A.: Ordinary Meeting.
NOV. 13.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
NOV. 13.—Victorian Branch, B.M.A.: Branch Meeting.
NOV. 14.—South Australian Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phoenix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

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